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THE AUTOMOBILE

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Records Broken at Empire City Track.

Barney Oldfield Places the World's Mile Figures at 1:01 3-5, and Tracy and Champion Make New Marks in the Most Successful Metropolitan Meet Ever Held.

THE race meet run off at the Empire City race track near Yonkers last Saturday was in all respects the most successful card of automobile speed events ever held in the metropolitan district. It was successful in drawing a crowd of 5,000 spectators despite the many counter attractions of Memorial Day in and about New York, including Yale-Harvard athletic games at Berkeley Oval, a rowing regatta by the university boat clubs on the Harlem, the Brooklyn Handicap horse race meet at Gravesend course on Long Island, the New York-Boston baseball game at the Polo Grounds, and a score of minor sporting events in the metropolitan district. The spectators came by thousands and crowded the large grandstand, the enclosure in front of it and the verandah of the clubhouse despite threatening weather and wretched transportation facilities. Hundreds drove to the track in automobiles, more than 200 of which assembled on the large lawn in front of the grandstand, presented an interesting and novel sight, and showed that fashion as represented by expensive touring cars had set the seal of approval on automobile races. The meet was a success in the matter of management, tedious delays in starting the races being so earnestly avoided that the entire program of eight events was run off in two hours and the meet was concluded by 5 o'clock. There were enough starters in the different events to provide fair competition and make them interesting, and the surface of the big mile oval was in such good condition that the breaking of records was not only possible, but was accomplished, when Barney Oldfield drove his Ford-Cooper racer around the course in the world's record time of 1:01 3-5 during the second heat of his match race with C. G. Wridgway. So the people went away well pleased with the afternoon's sport and deeply impressed with the speed possibilities of the machines and the daring of their drivers—mainly boys and young men, as several observed.

The most spectacular event of the day was the Oldfield-Wridgway match, best two in three five-mile heats. In the first heat, Oldfield in the 70-horse power Ford-Cooper racing car, started from in front of the stand while Wridgway, in a 35-horse power racing Peerless, started on the opposite side of the track. Oldfield was slow in getting started, his motor missing explosions at every revolution, so that Wridgway gained nearly 100 yards by the end of the first mile; but in the second mile the Westerner picked up, recovered

NEGOTIATING THE FIRST TURN IN THE 5 MILE EVENT AT THE EMPIRE CITY TRACK—TRACY IN THE LEAD.

the lost ground and slowly forged into the lead, which he barely held to the end of the five miles, winning by 200 yards. His times were as follows: One mile, 1:32; two miles, 2:56 3-5; three miles, 4:35; four miles, 5:45; six miles, 7:02 1-5. Wridgway's time was 7:13.

The second heat was run as the last event, and was a fitting finale, with an enthusiastic ovation to Oldfield as the champion of American automobile track racing. Positions at the start were reversed in this heat, Wridgway starting at the wire. This time Oldfield's car was in good running condition, which served by contrast to draw particular attention to the handicap under which his opponent was riding with a car that had arrived from Cleveland only two or three days before, and had not been properly adjusted and tuned up. Although Wridgway got under headway quicker than the Toledoan, having the lighter car, the advantage was almost immediately taken from him by his opponent, who completed the first mile in 1:14 2-3. Hugging the outer fence closely so that he could make the turns more safely, Oldfield let old "999" all out as he came down the stretch like a scarlet flash.

Spectators leaning over the fence jumped back and those near the first turn ran away, fearful that the daring driver might miscalculate the turn or lose control of the monster car, with fatal consequences. They had seen the rear wheels of the machine slew far out and cause erratic steering, by reason of its lack of a differential, in the previous heat when driven near the pole, and did not care to take any chances. Still sticking close to the outer fence, Oldfield came out of the turn and down the backstretch with the speed of an express train making up lost time, and again the low, red car and the sturdy figure of a man wearing a red leather coat, large black goggles and with hair fluttering in the wind and face bespattered with oil, simply shot down the homestretch straight past the grand stand and club house like a meteor, while the spectators held their breaths and gazed on the sight, marveling at the speed, the nerve of the man and drawing mental pictures of the inevitable consequences of a momentary loss of control or the breaking of a wheel or bursting of a tire.

This second mile was the fastest that had ever been made in any machine on any track, either in this country or abroad, notwithstanding that Oldfield had covered nearly 100 yards more than the mile by sticking to the outside all the way around. His time was 1:01 3-5, beating Winton's track record of 1:02 1-2. When it was announced by Timer Butler, of the American Automobile Association, as a new world's record a great cheer arose from the throng, which was standing on its feet and still following the flying figure. Meanwhile the people had momentarily forgotten Wridgway in the excitement, but recalled him as Oldfield overtook and passed him at the end of the backstretch in the third mile, having gained the half mile that separated them at the start. Apparently satisfied, Oldfield then slowed down just a trifle and made three more circuits still hugging the fence, at a 1:05 clip, getting inside all the best times made up to last fall at each mile and once more almost overtook his opponent, whom he beat by a mile and a quarter. His times by miles were: One mile, 1:14 2-5; two miles, 2:16; three miles, 3:21; four miles, 4:26 2-5; five miles, 5:31. Oldfield's own best time for five miles is 5:29. Wridgway's time was 7:30.

CHAMPION AND HIS 10 H. P. CLEMENT MOTOR BICYCLE ON WHICH HE MADE NEW WORLD'S TRACK RECORD OF 1:04 1-5 FOR THE MILE.

When Oldfield returned to the tape after the conclusion of the race, he was immediately surrounded by several hundred people who jumped over the fence and ran down the track to congratulate him. They tried to drag him from his car and carry him on their shoulders, but he modestly expostulated and clung to the machine.

Wridgway deserves much credit for his sportsmanlike action for starting and continuing in the race when he knew that the clutch in his Peerless was slipping, that his cylinders were not all firing, and that in other ways the car was not keyed up to the work.

There was a curious and amusing finish in the first event of the day, which was a mile open race for all types of machines weighing less than 1,000 pounds. Dr. A. L. Nelden, driving a 5 horse power Northern weighing 990 pounds, was well in the lead, with George C. Gould following at about twenty yards in a 4 horse power Orient Buckboard, weighing 500 pounds. Nearing the finish the leader appeared to take his attention off of his own machine to look back. The Buckboard had crept up close behind him and, being so small and low, seemed to escape notice and easily slid in winner in 2:05, with a lead of five yards. John J. Hickey, in a 10 horse power Autocar, was a bad third, 300 yards back, while J. W. White, in a 4 horse power Buckboard, and Thomas Holden, Jr., in a 3 1-2 horse power Locomobile, were unplaced.

There were only three starters out of nine entries in the second event, a three-mile race for gasoline cars weighing from 1,000 to 1,800 pounds. They were Albert C. Bostwick, who made his appearance in Saturday's races in an 18-horse power Mercedes for the first time in two years; Joseph Tracy, driving J. I. Blair's 35-horse power Paris-Vienna Panhard; and F. A. LaRoche, in a 30-horse power Darracq. Tracy took the lead from the start and gained steadily to the end, finishing 250 yards in advance of his opponents, in 3:50, with Bostwick second and LaRoche third. Entering the homestretch, LaRoche drew up on Bostwick and in attempting to pass, crowded him toward the pole. Bostwick steered in so quickly and so much that the shoulder of his mechanic rubbed against the fence as he leaned out, which left a spot of whitewash on it that many mistook for a tear in the cloth. Bostwick pulled his clutch, disconnecting his engine to avoid an accident, and after the race entered a protest, but as Mr. LaRoche finished behind Bostwick, Referee Pardington did not allow the protest. Joseph Tracy displayed considerable

nerve in driving the big Panhard because when entering the track grounds on his way down from the city he noticed that the differential was sticking and it had to be doctored before the start of the race. He might, perhaps, have made even better time than 3:50 had his car been working properly.

The prettiest event of the day was the five-mile open for gasoline machines weighing more than 1,800 pounds. The starters were as follows: Joseph Tracy, in J. I. Blair's 35-horse power Panhard; Lafayette Marble, in the Central Automobile Company's 18-horse power Mors; C. G. Wridgway, in a 16-horse power Peerless; B. F. Bradley, in a 20-horse power Pan-Am. belonging to the Commercial Motor Company, successor to the Pan-American Motor Company, and Alfred Poole, in Lawrence Waterbury's 40-horse power Mercedes. Tracy got away quickest in the flying start and had the lead at the quarter post, but Poole came up with a rush in the Mercedes and passed Tracy in the backstretch, finishing the first mile with a lead of a rod in 1:20. In the third mile Tracy regained the lost ground and again taking the lead in the backstretch, held it to the finish, steadily increasing his advantage to nearly a third of a mile. His time was 6:23 for the five miles. Tracy has been disqualified since the race, however, because his car was under weight, as it weighed 1,661 pounds, while the race was for machines weighing more than 1,800 pounds. The race, therefore, has been awarded to Poole, who finished second in the Mercedes, in 6:39 2-5. Marble, in the Mors, ran third, in 7:16, nearly half a mile back of Poole.

The Mercedes would have won easily from the Panhard had not a nut on the make and break sparking mechanism worked loose so that one of the cylinders did not fire.

Another pretty race was the five-mile motor bicycle race for the amateur championship of America, open only to regularly catalogued machines equipped for pedal propulsion. There were nine starters in the race, five of them on Indian 1 3-4-horse power machines. The most powerful machine was the Curtiss two-cylinder 5-horse power machine, ridden by G. H. Curtiss, who won the hill climbing contest at Kingsbridge in the forenoon. The contestants were not well lined up when they crossed the tape in the flying start, so the race was started over. The men started slower this time, and the first four riders were well lined up, though there was a back bunch that got a rather poor start. Curtiss took the lead almost from the start and steadily increased his advantage, winning in 6:34. George N. Holden and Fred W. Rogers, both on Indian bicycles of 1 3-4-horse power, made excellent rides, finishing respectively second and third less than half a lap back. Holden's time was 7:07.

Albert Champion rode a five-mile exhibition on a 10-horse power, four cylinder Clement bicycle, covering the distance in the excellent time of 5:35. He stuck well to the pole and rode steadily and true with the experience of a veteran, lying with his head and body close down on the top bar and tanks of the machine. His times by miles were: 1:04 1-5; 1:05 3-5; 1:05 3-5, 1:06 2-5 and 1:14 1-5.

In the mile record trials open to all machines, a fine exhibition of speed was made by a 60-horse power Mercedes car owned by O. W. Bright and driven by his operator. Although not officially entered, this car made the best time—1:07. Second best time was made by Alfred Poole in Lawrence Waterbury's 40-horse power Mercedes, which covered the mile in 1:12, although it, too, had not been entered. The 2,150-pound Mors driven by Lafayette Marble, made the circuit in 1:29 3-5.

A track record for machines weighing between 1,000 and 2,000 pounds was established by Joseph Tracy in J. I. Blair's 1,600-pound, 35-horse power Panhard, his time being 1:16, which beat Percy Owen's track record of 1:19 1-2.

JOSEPH TRACY DRIVING 35 H. P. PARIS-VIENNA PANHARD RACER, WITH WHICH HE MADE NEW MILE TRACK RECORD IN MIDDLE WEIGHT CLASS.

SUMMARIES.

One mile open, for all types of machines under 1,000 pounds—George C. Gould (Orient Buckboard, 4 H. P.) first; Dr. A. L. Nelden (Northern, 5 H. P.) second; John J. Hickey (Autocar, 10 H. P.) third. Time, 2:05; intermediate times, quarter, :33; half, :59 3-5; three-quarters, 1:28 4-5.

Three-mile open, for gasoline machines weighing 1,000 to 1,800 pounds—Joseph Tracy (35 H. P. Panhard) first; Albert C. Bostwick (Mercedes, 18 H. P.) second; F. A. LaRoche (Darracq, 12 H. P.) third. Time, 3:50; intermediate times, one mile, 1:20; two miles, 2:35 2-5. Bostwick's time, 4:00.

Five-mile motor bicycle exhibition—Albert Champion (Clement, 10 H. P.). Time, 5:35; intermediate times, one mile,, 1:04 1-5; two miles, 2:09 4-5; three miles, 3:15 2-5; four miles, 4:21 4-5.

Five-mile open for gasoline machines weighing more than 1,800 pounds—Joseph Tracy (Panhard, 35 H. P.) first; Alfred Poole (Mercedes, 40 H. P.) second; Lafayette Markle (Mors, 18 H. P.) third. Time, 6:23; intermediate times, one mile, 1:20; two miles, 2:34; three miles, 3:50 1-2; four miles, 5:08. Poole's time, 6:39 2-5; Markle's time, 7:16.

Five-mile match race, best two in three heats—First heat—Oldfield (Ford-Cooper, 70 H. P.) won. Time, 7:02 1-5. Wridgway (Peerless, 35 H. P.) second. Time, 7:13. Second heat—Oldfield won. Time, 5:31; intermediate times, one mile, 1:14 2-5; two miles, 2:16; three miles, 3:21;

four miles, 4:26 2-5. Second mile made in 1:01 3-5, breaking world's record. Wridgway second. Time, 7:30.

Five-mile motor bicycle race for amateur championship—G. H. Curtiss (Curtiss, 5 H. P.) first; G. N. Holden (Indian, 1 3-4 H. P.) second; F. W. Rogers (Indian, 1 3-4 H. P.) third. Time, 6:34; intermediate times, one mile, 1:17; two miles, 2:31 1-5; three miles, 3:47 1-5; four miles, 5:06. Holden's time, 7:07.

Mile record trials for all machines—Joseph Tracy (Panhard, 35 H. P.), 1,661 lbs.) 1:16; track record for machines between 1,000 and 2,000 pounds; Lafayette Markle (Mors, 18 H. P., 2,150 lbs.) 1:21 1-5; F. A. LaRoche (Darracq, 30 H. P., 1,625 lbs.) 1:29 3-5; Alfred Poole (Mercedes, 40 H. P.) 1:12; O. W. Bright's (60 H. P. 1903 Mercedes) 1:07.

The meet was held under the rules of the American Automobile Association, and was promoted by the Empire City Trotting Club. Much of the credit for the success of the affair is due to the experienced men who handled it at the track, as follows:

Referee, A. R. Pardington; judges, Geo. I. Scott, L. R. Adams and C. A. Benjamin; timers, S. M. Butler, M. J. Budlong, Frank G. Webb and Roland Douglass; clerk of course and starter, A. J. Pickard; assistant clerk, P. J. Fisher; umpire, Frank Eveland; announcer, Peter Prunty.

One Point of View.

Chauffeur (to millionaire motorist)—"Mr. Bilyun's chauffeur ran over a man yesterday."

Milyuns—"Well, say, get busy there; I can afford it if he can!"

World's Mile Record for Steam Cars Broken at Readville Meet.

F. E. Stanley Drives His New Boat Shaped Car Around the Track in 1:02 4-5—Fosdick Defeats Skinner in Unlimited Pursuit Race.

Special Correspondence.

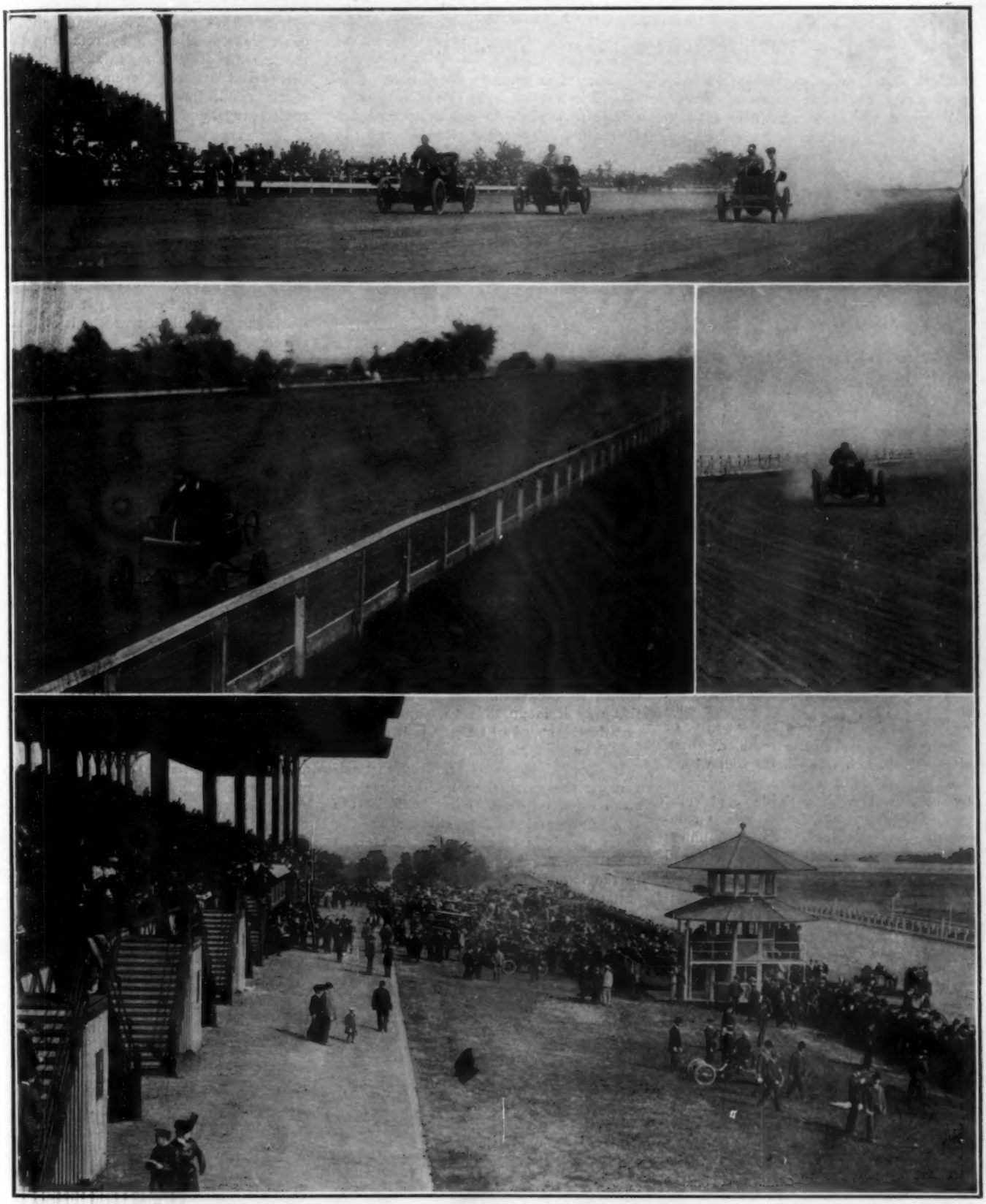
BOSTON, May 30.—With the finest kind of racing weather, bright sunshine throughout the afternoon, and a crowd of from 12,000 to 15,000 people to look on, the first race meeting ever held by the Massachusetts Automobile Club came off at the Readville trotting track, near Hyde Park, to-day. The occasion would have passed as a great success even had no records been broken, but through the performance of the widely-heralded special steam racing cars of F. E. Stanley of Newton and George Cannon of Harvard University, the world's track record for steam machines which gave interest and fame to the meet of the Rhode Island Automobile Club at Providence last autumn, was lowered by several seconds. There were other good events, one a pursuit race, but the contest between the steamers was the big event of the afternoon, and it aroused great enthusiasm in the crowded stands.

The officials in charge felt that it would be too dangerous to have such fast and powerful machines all on the track together, so the plan of making a regular race of the contest was abandoned, and instead it was decided that the cars should run against time, separately, each to have the track to itself for two circuits for warming up and then for the final flying official speed test. Charles Grout came out first, with a long, low red Grout car, built especially for this contest, but after circling the track twice he came down the stretch limping, and withdrew. He had broken a connecting rod and was out of the running for the day. Then out came F. E. Stanley, raising a good-natured laugh at his appearance, for he sat in what looked much like an inverted flat-boat, with only the top of his head visible. The machinery was all within the body so that the wind resistance was largely eliminated.

The car was off like an arrow. So low hung was it, that its driver had seemingly little difficulty in keeping it close to the pole even at the turns. When he got the signal for the time trial as he flashed by the starter it looked as if he could easily capture the record, and the crowd was disappointed when his time was given out as 1:06. The spectators had thought he would do better. Now they looked to Cannon to do it. The Harvard man felt confident, for in practice the day before he had been timed around in 1:03. His ma-

(*Continued on page 599.*)

BARNEY OLDFIELD NEGOTIATING A CORNER AT THE RATE OF 1:01 3-5 FOR THE MILE.



Approaching the Starting Line in the 3-Mile Event. Tracy on the inside, Bostwick in the middle, and La Roche on the outside.

Gould on Orient Buckboard passing Nelden in Northern at Finish of 1 Mile Open. Barney Oldfield at top speed coming into the Homestretch.

General View of Enclosure at Yonkers Track, Judges Stand on the right, Grand Stand on the left.

INSTANTANEOUS PHOTOGRAPHS OF SCENES AT THE EMPIRE CITY TRACK, IN NEW YORK, ON DECORATION DAY.

Diagnosing Gas Engine Ills.

II.—The Spark: Miscellaneous Troubles.

Weak but regular explosions such as were discussed in the preceding article, are never due to trouble with the ignition apparatus. If the explosions are irregular they may possibly be due to a faulty mixture, but the trouble is much more apt to lie in a weak or intermittent spark. Theoretically, even the feeblest spark should explode a good mixture. Practically, the mixture is seldom good enough. Again, compressed air has a higher electrical resistance than uncompressed or rarefied air, and a battery which will give a good spark (the jump spark is here referred to) in the open air will often fail to do so in the compressed mixture. Pressing the spark points of the plug a little closer together will remedy matters till a fresh battery can be put in. Or the trouble may be in the plug. If covered internally with carbon deposit from a rich mixture or too much cylinder oil, the current, if not thereby short-circuited in the open air, may choose the carbon path in the cylinder. A sooted plug should be cleaned without further parley, by the use of fine emery cloth, before any further search for the source of trouble is made. It is by far the commonest of minor troubles. If the porcelain is broken or even much chipped it is useless and must be replaced, taking care to pack it tightly and evenly.

If the battery and plug are all right the trouble is probably due to a loose connection, broken or short-circuited wire, or a faulty adjustment of the trembler. Often a trembler which will vibrate well with a fresh battery will require readjustment before it will work with depleted cells. Occasionally a coil will break down internally, but this is not common, unless excessive currents have been used, and the chances are that the trouble will be found elsewhere. Now and then the contacts of the trembler, or of the primary sparker if that be used, will need a touch with sandpaper, with possible readjustment to follow. They should at all times be kept as clean as possible.

COMMUTATOR CONSTRUCTION.

The commutator, if in the form of a fiber disc with metal segment, will never need adjustment till it is worn out. If a cam is used, working on springs which make contact with adjustable screws, there is more chance for trouble. The contact screws should be adjusted so that the circuits are closed at precisely the same crank position for all the cylinders; a point best ascertained by marking the flywheel and turning it over slowly by hand. It will repay the chauffeur to spend considerable time, if necessary, in getting this exactly right. When adjusted, the contact screws should of course be locked or clamped as securely as possible. Loss of adjustment by these screws may cause failure to explode in one or more cylinders when the spark is retarded, and this may be tested by advancing the spark.

TIMING THE SPARK.

This matter of the timing of the spark, though it was not mentioned in the preceding article, is an important one in the operation of a high-speed engine. As was there remarked, the propagation of the flame is not instantaneous, and it is more rapid in compressed than in uncompressed gas. It therefore follows that, if ignition occurs at the "dead" point, or end of the compression stroke, the charge may or may not burn rapidly enough, according to the speed of the engine. If the speed be slow a very rapid inflammation is not desirable, as a large part of the heat would be lost to the jacket before it could be converted into work by the outward movement of the piston. But if the piston is moving rapidly the charge must burn correspondingly fast, and, to effect this, advantage must be taken of the relatively long period, near the end of the compression stroke, when the piston's motion is slow compared with that of the crank. By igniting the charge when the crank is, say, 45 degrees from its top center, combustion takes place under high pressure, and the lost work is small owing to the small piston motion. In this way it is possible to augment very greatly the speed of an engine over what would be possible with fixed spark.

It should be carefully noticed that advancing the spark does not increase the mean effective pressure or torque of the engine beyond that obtainable at the lower speed; in fact, at very high speeds the torque always falls off, owing chiefly to the impossibility of getting the gases past the valves fast enough. All that the early spark does is to make it possible approximately to maintain the torque with increasing speed. Consequently it does no good, but rather the contrary, to advance the spark when climbing a hill. If the motor is turning slowly, whatever the reason may be, a late spark must be used; otherwise the combustion will be completed before the crank has reached the dead point, causing negative work and, usually, a destructive knocking in the bearings of the connecting rod. A little practice intelligently directed will enable the chauffeur to recognize the point where further advance of the spark ceases to be beneficial under the conditions of the moment.

REGULATION BY THROTTLE.

In general, it is obvious that speed regulation should be obtained primarily by the throttle, the mixture being cut down to the lowest practicable amount and the spark advanced as far as the speed will warrant. The engine should never be slowed down by retarding the spark until other means fail, as a full charge and late spark, even at fairly slow speed, result in incomplete combustion, sooted plugs, and a marked waste of fuel.

KNOCKING IN THE ENGINE.

It is worth while to remark here that knocking in the engine may be traced not only to too early ignition, but sometimes to a loose flywheel. The latter may be detected by blocking the cranks and working the flywheel forcibly back and forth. Usually the flywheel has a taper fit on the shaft, and if it is only slightly loose it may be tightened by forcing it up on the taper, but generally a new key is also required.

FAILURE TO START.

From the principles indicated above and in the preceding article, it is always possible to locate the cause of a failure to start. One should be sure at the outset that the liquid in his carbureter is gasoline of the proper grade, that the plug is clean, the battery of normal strength, the vibrator in working order, and the compression good. The two last named points will declare themselves on the first turn of the crank, and the other three should never be taken for granted. The time to investigate them is not when the motor fails to start, but before any attempt is made to start it. Only the seasoned chauffeur, who has learned by long use the weak points of every part of the machine, is justified in omitting that preliminary, and even he will sometimes be sorry he did it.

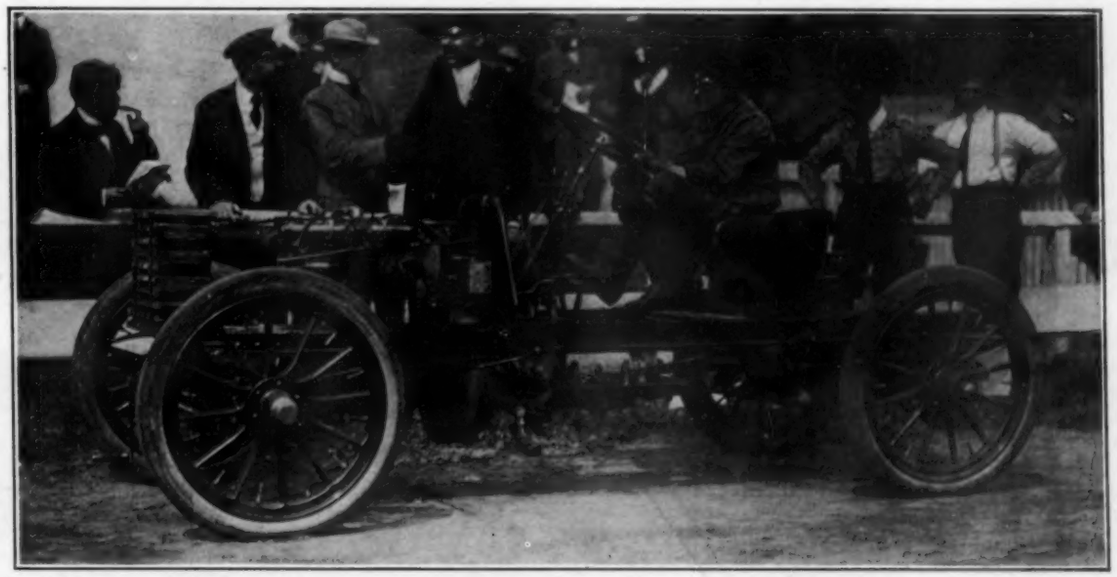
Attention to these five points will do away with nine-tenths of the commoner causes of balking. If the trouble is elsewhere, it is probably to be found in failure of the plug to spark or of the carbureter to give the right mixture. The former trouble may be due to a broken wire, to a short-circuit in the plug or elsewhere, or to failure of the spark to jump the gap, owing to spreading of the points or weakness in the battery. Usually the trouble will be found in the plug itself, but, if it is not, the wiring circuit should be thoroughly overhauled for loose or broken wires. A wire will occasionally break while the insulation around it remains intact, especially if so located that the vibration can crystallize it; and such breaks are sometimes found in most unexpected places, and are very elusive. If a primary igniter is used, the moving electrode may be stuck, owing to lack of or too much oil, or the contact points may be fouled by cylinder oil or burnt by the spark.

CARBURETER ADJUSTMENT.

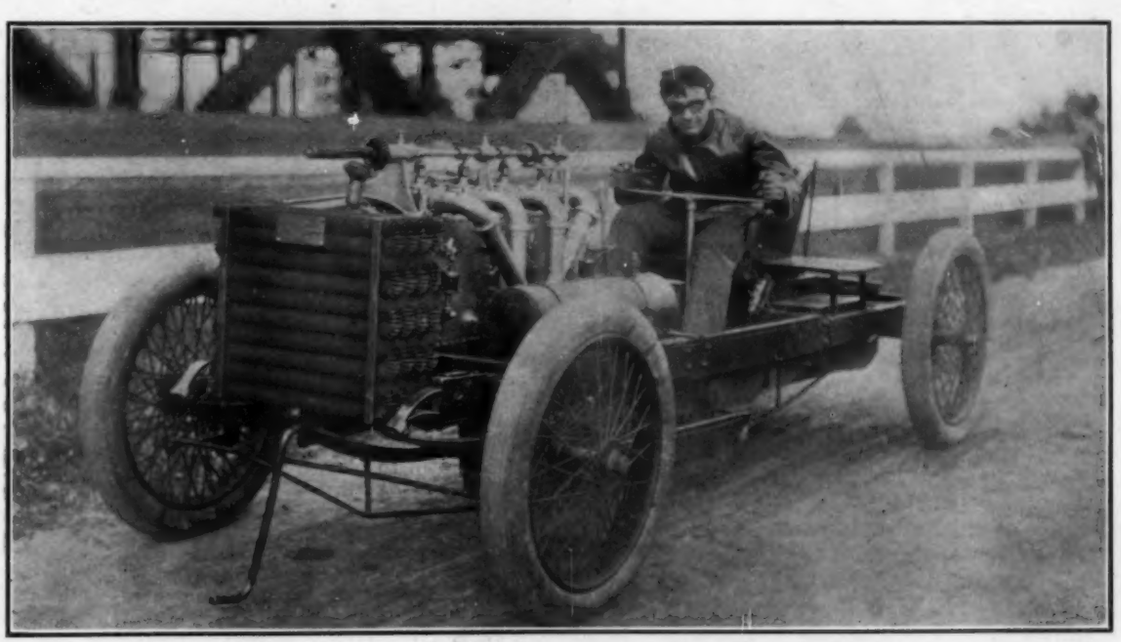
A good modern carbureter fortunately gives very little chance for trouble, even in the hands of a novice. It is impossible to "flood" it by excessive priming, and

there is little else to worry about, barring dirt or possible sticking of the float. Some old-fashioned carbureters, however, need to be handled daintily, as over-priming may produce an excess of gasoline which can only be got rid of by shutting off the fuel altogether and pumping the carbureter dry by turning the crank. This is an exasperating occurrence, as it is frequently impossible to say whether the motor fails to start because the mixture is too lean or too rich; besides which its quality may change altogether as soon as the motor starts. Sometimes matters may be mended by drilling an orifice for the escape of any excess of gasoline. To locate this orifice, however, requires some experimenting and possibly plugging of badly-located holes. In general the adjustment of the carbureter is about the last thing about the motor to be meddled with.

If the motor when started skips explosions, the cause may usually be traced to the ignition, as explained in the foregoing paragraphs; though if alternate explosions are missed regularly the mixture is the source of trouble. If the explosions are regular but weak the trouble is in the mixture or else in a clogged pipe somewhere or a weak or broken valve spring. If the motor has just been repaired the 2 to 1 gears may have been wrongly put together, changing the timing of the valves and spark. The exhaust valves should open a little before the end of the power stroke and close at or very slightly after the end of the exhaust stroke. It has been assumed above that the compression was good. If it is not, and the valves and cylinder-head packing are tight, the piston rings are possibly gummed by burned oil. They may be cleaned by a little kerosene squirted in through the spark plug hole or the compression tap, and it is a good plan to clean the rings thus after every day's run of any length.



RIDGWAY IN THE 35 H.P. PEERLESS RACING CAR AT EMPIRE CITY TRACK.



BARNEY OLDFIELD IN THE 70 H.P. FORD RACING MACHINE, KNOWN AS "999."

INSTRUCTIONS PLUS RESOURCEFULNESS.

It is hardly possible for any set of general suggestions like the foregoing to do

more than indicate the principles underlying the various classes of trouble, and nothing will take the place of resourcefulness on the part of the operator. The writer remembers a vehicle which for weeks baffled the ingenuity of the repair men, running regularly, but developing barely a fifth of its normal power, till at length the muffler was discovered to be nearly choked with oil; also a launch which was adrift for hours in New York harbor on the occasion of our America's Cup race, while the cylinder heads were taken off and replaced, and the carbureter and ignition system thoroughly overhauled,without result; till at length it occurred to some one to disconnect and blow through the small pipe from the gasoline tank to the carbureter. A defunct bluebottle fly was expelled from the pipe at the first blow, and when the pipe was put back the engine ran as usual. Similarly, unaccountable skipping of explosions has been traced, after weeks of futile search, to a loose wire so located that on an up grade the battery leaned against it and made a good contact, while on the level that weight was released and the wire vibrated into and out of contact. The best rule for the beginner to follow, when "up against" a problem of this sort, is that enunciated in both this and the previous article—to take nothing, absolutely nothing, for granted about the working of the vital organs of his machine.

Plan to Reorganize Buffalo Club.

Special Correspondence.

BUFFALO, May 23.—Plans for injecting new life and interest into the Buffalo Automobile Club were made at a meeting of the club, held a few days ago at the Niagara Hotel. It was decided to hold a banquet to which all persons in any way interested in automobiling will be invited. A committee consisting of W. C. Jaynes, E. R. Thomas, A. H. Knoll, Charles Clifton and J. P. Devine, was appointed to have charge of the banquet and membership campaign. Personal letters are to be sent out to automobilists, inviting them to join the club, and at the banquet the speakers will urge owners to join the rejuvenated organization.

One of the main purposes of the club is to protect motorists against injurious legislation like the Bailey law, for signing which the Governor was severely criticised at the meeting.

S. H. Woodruff, an ardent automobilist, came forward with an offer to furnish a plot of ground free if the club will build a clubhouse upon it. The land is situated near the Country Club, within easy access of the city, and will offer a delightful place for meeting and recreation. The offer was held for further consideration.

The sale of automobiles at Portland, Me., is largely increased this year. The only obstacle feared is in securing enough cars to fill local orders. Heretofore it is estimated there were not more than 125 vehicles in the entire State.

Forty Miles with a Gasoline Truck.

BY MARIUS C. KRARUP.

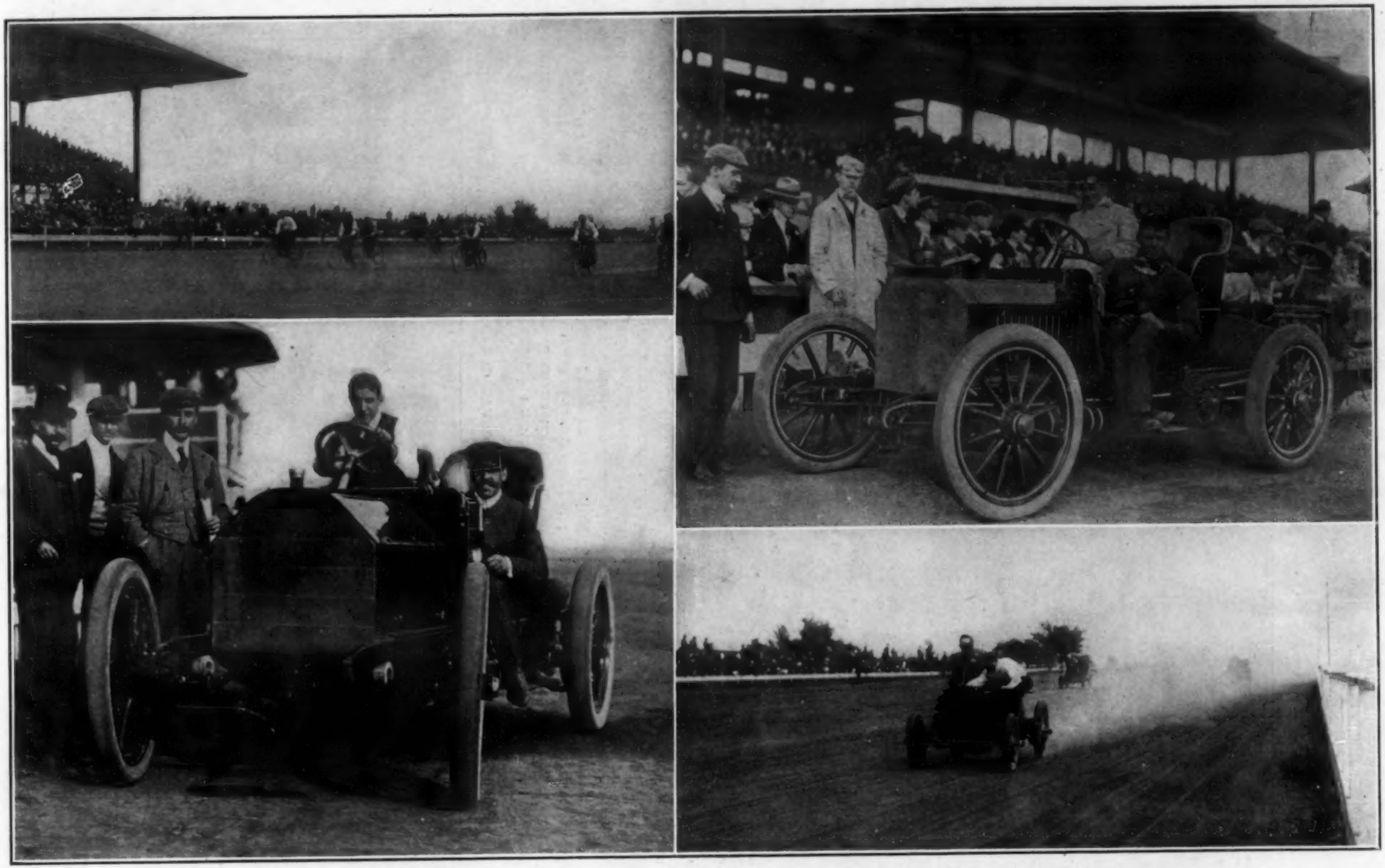
Among all the machines entered in the Commercial Vehicle Contest of the Automobile Club of America, only the two gasoline motor trucks made by the Union Motor Truck Co., of Philadelphia, represented something radically novel and unrecognized in construction. With the steam trucks the main question to be decided was how economically and how rapidly they could cover the route, while it was taken for granted that they could cover it somehow, as similar work had been done before by similar vehicles. The interest with them was centered in the details of water and fuel consumption, but with the two Union trucks the principle of traction was under debate, the majority leaning apparently to the belief that it was wholly impracticable.

It was therefore with considerable satisfaction that I learned on Wednesday morning that I had been assigned to observe one of these vehicles for the Automobile Club of America, and incidentally for this publication and for myself.

I received the heavier one of the two, a stake truck loaded with 3,240 pounds of horse feed in bags, as it came from the weighing station, where the total weight had been recorded as 9,050 pounds. 'Ed," the driver, and "Fred," the mechanic, were in charge. The water tank was filled at the hydrant, on Fifty-eighth Street, and we were ready to start at 9:03 A. M. Immediately after turning the corner an importunate photographer beckoned to Ed. to stop for a picture, and being very good-natured Ed. complied, so that it looked to the spectators as if we were to be stalled 10 feet from the start. Aside from inadequate cooling of the motor, however, the first day was to be a very conclusive vindication of the peculiar driving system of the vehicle when limited to low speeds. An illustrated description of the system follows this article.

The 20-horsepower four-cylinder gasoline motor is mounted rigidly on a heavy iron frame connected pivotally with the fore axle and rigidly with the rear axle. The motor is designed to run at unvarying speed, and the driver should have nothing to do with it except to start it and advancing the spark to a certain predetermined point after it has been started. The motor speed can be regulated, however, by adjustment of its governor, but the driver would ordinarily have no reason for interfering with the adjustment given it in the stable. The power transmission device takes the place of a series of low mechanical gears, and is always connected with the motor, so that the Selden patent is probably not applicable to this system. As shall be seen later, a truck with twice as powerful a motor and equipped with very low gears, say 1 mile and 4 miles per hour, besides a reverse, could not have the flexibility of action and the power to move the load in emergencies attained by the transmission device employed in this truck, and

GASOLINE STAKE TRUCK BUILT BY UNION MOTOR TRUCK CO.



Motor Bicyclists coming down to the Starting Line.

O. W. Bright's 60 H.P. 1903 Model Mercedes which covered the mile in 1:07.

Lawrence Waterbury's 40 H.P. 1902 Model Mercedes with Poole driving.

Tracy and the Paris-Vienna Panhard in the lead in the 3-mile event.

PHOTOGRAPHS OF CONTESTANTS AND EVENTS AT THE EMPIRE CITY TRACK AUTOMOBILE RACES IN NEW YORK, MAY 30.

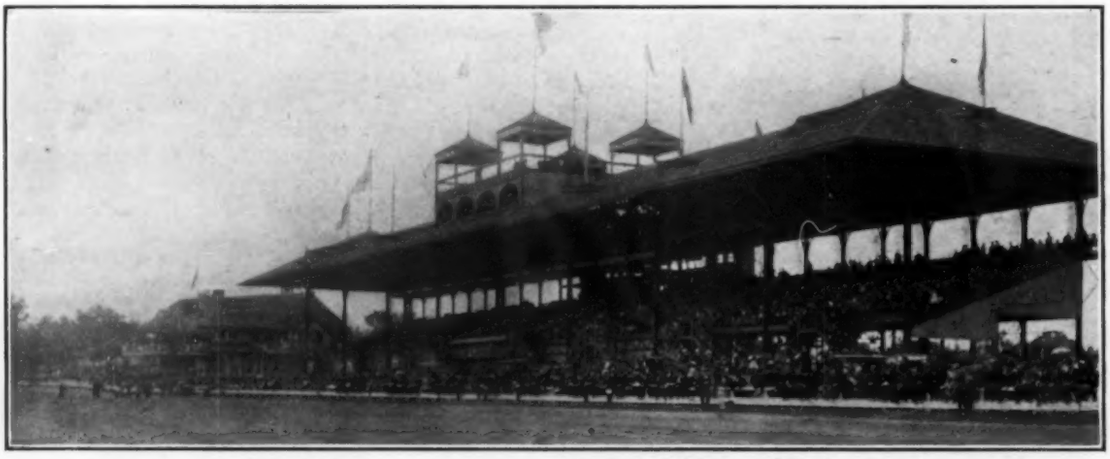
would court practical difficulties through the necessity of placing a gas throttle, a spark shifter and a speed-changing lever under the control of hired men who may know little and care less about the proper use of these devices, with their complicated interdependent action.

The Union Motor Truck is therefore a decidedly interesting contribution to the problem of personnel which enters so strongly in the introduction of self-propelled vehicles for commercial use, and from this standpoint alone it is worthy of study, while it may be admitted in advance that many details in its design are probably destined to be considerably improved.

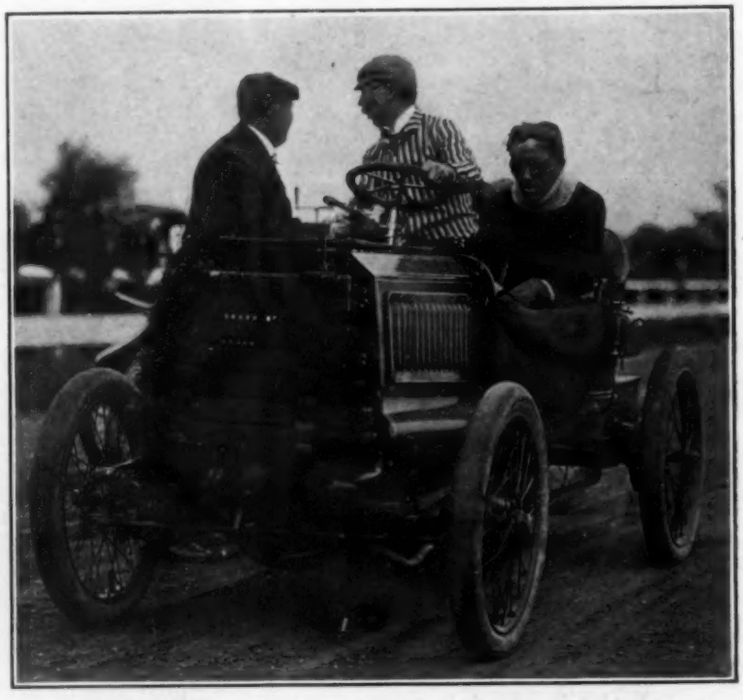
The makers of this machine are well aware that their method of applying the gasoline motor to heavy hauling is strictly limited to this class of work, and that the practical gasoline motor pleasure car is one of rather high potential power, for its weight, ordinarily used much below its capacity by means of throttled fuel charges, and in which the low gear or gears are employed only for starting and rare emergencies. True to this conviction A. H. Chadbourne and C. F. Clement, the principals of the company, drive Winton cars for their personal use, and together with E. Cellersen, the superintendent of their works, followed the performances of their two trucks in one of these cars, model 1903, thereby indicating as plainly as possible that their choice of the roller clutch transmission for trucks is not a case of getting enamored with an ingenious novelty in design, but the result of a matured conviction that differentiates between the requirements for heavy, slow transportation work, managed by more or less unskilled drivers, and in which the main question is to always have sufficient force available at the rim of the driving wheels to move the vehicle, and, on the other hand, the requirements for ordinary automobile driving in which a wide range of speeds is wanted, down to the very lowest, while the question of power is taken care of by having the motor so large that it can easily move its load even at a minimum motor speed.

This conviction consequently takes about this form: 1. For light work, by the explosion motor, infinite gradations in driving effects through motor control or variations of motor speed and power, and, 2. For heavy transportation, by the explosion motor and unskilled operators, infinite gradations in driving effects through infinite variations of gear speed.

But the ordinary power transmission mechanism is a step gearing affair. If the lowest gear is calculated to produce a vehicle speed of two miles per hour, it cannot produce less without slowing up the motor, and to slow up the motor means reduced power to handle the load and it also means entrusting a more or less unskilled operator with work for which he is probably not adapted, and with which he should not be burdened. In heavy transportation the full motor power may frequently be required at 1-4, 1-2, 1 and 1 1-2 miles per hour. The correct idea is, then, to have a transmission device which may be operated by a simple, progressive motion, while the vehicle is at a standstill, until the vehicle moves, and by which a further progressive operative motion means increased speed, as great as the motor can handle or is deemed advisable. The transmission device should also be so constituted that the load, when it is desired to start from a standstill, cannot stop the motor, so as to require cranking. And it should further, if possible, be so constituted that a change in resistance, as caused by a rise



VIEW OF THE CROWDED GRAND STAND AT THE EMPIRE CITY TRACK RACE MEET.

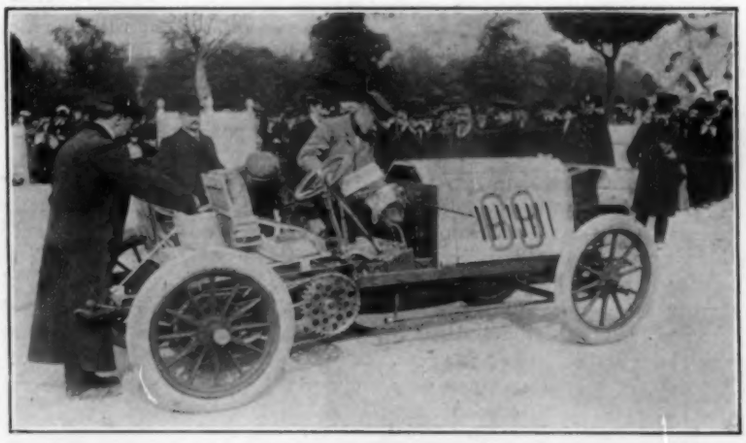


LA ROCHE DRIVING 30-H. P. DARRACQ AT EMPIRE CITY RACES.

of grade, cannot stop the motor. Theoretically the Union truck mechanism complies with the first of these requirements, but not with the second. In practice, as shown by the test, it complies with both, but only, it is feared, at some cost in the general efficiency of the mechanism when operating under excessive resistance with a very small crank throw.

During the whole of the 40 miles of travel the motor was never stopped by an excess of resistance in moving the vehicle and its load, though the vehicle occasionally was brought to a short stop awaiting the gradual readjustment of the power transmission device.

If the roller clutch action had been absolutely positive, the hydraulic speed-change pump absolutely positive, the connecting rods from crank pin to clutches absolutely rigid or their bearings absolutely without play, the rings surrounding the roller clutches absolutely rigid—the theoretical condition—the motor should have been stopped on hills by the resistance, as soon as the vehicle was stopped. And, obversely, the motor should have moved the vehicle from a standstill, as soon as the hydraulic pump moved the crank pin from its zero position, concentric with the motor shaft, to one in the least eccentric. Neither one or the other took place, and, as it is highly desirable that the motor should not be subject to stoppage from the cause mentioned, it remains a question to be decided from judgment and experience to what extent the theoretical conditions ought to be approximated in the Union power-transmission device. What it would gain in efficiency near the zero of speed ratio—for moving against excessive resistance—it would lose in practical virtues under more ordinary circumstances. However, as the driver may quickly reduce his gear speed, by allowing part of the oil to escape which holds the crank at any given throw, and may thereby avoid being stalled on a hill, it seems that it would be desirable to have the whole mechanism quite nearly positive in action.



ROUGIER IN 45 H. P. TURCAT-MERY CAR IN PARIS-MADRID RACE.

MME. DU GAST STANDING BESIDE HER 35 H. P. DE DIETRICH — THE ONLY WOMAN CONTESTANT IN THE PARIS-MADRID RACE.

Proceeding now to describe the test it may be well to note beforehand that the special form of transmission device had nothing to do with the serious delays en route, except in so far as the overheating of the motor may be said to have been due in part to the fact that the motor is intended to be operated continuously at its maximum power and heat generation, with this transmission system, without obtaining the comparative rest that motors have under other circumstances when the vehicle runs on the level and the gas charges are reduced. On the other hand, the transmission device extricated the vehicle in many situations where a twenty horse power gasoline motor hitched to a load like ours through ordinary gearing would have been powerless.

It was soon seen that a vehicle should not be sent out in a public test a day or two after it is out of the shop, for at 9:50 o'clock, 47 minutes after the start, the left rear axle bearings developed a "hot box" on Central Park West. It was treated with graphite axle grease during a rest of 5 minutes, until it subsided somewhat, and at subsequent halts received cold water compresses and douches, but the bearing remained quite warm until the afternoon, when it cooled down, showing that a little private testing would have obviated this trouble.

On the 110th Street grade I had the first taste of the little perfunctory stops of one or two seconds' duration which may occur when the gear is found too high and the driver is loath to reduce it too much or too quickly. These little stops are a peculiarity of the construction, and quite harmless, as the motor continues to work, and may doubtless be avoided by a confident operator.

But Ed. felt the burden of the test performance resting on his shoulders, and was a little gingerly with his levers at first.

At 121st Street on Amsterdam Avenue a stop was made through the misunderstanding of a call from a passing car, and it was discovered that the motor shaft was running hot. Five minutes was taken to lubricate it. The load was found to have shifted a trifle forward, closing the tool box door under the seat. The down grade to 125th Street was made without difficulty under the block brakes, with the motor running and transmission gear operating near zero. The clutch arrangement acts, of course, as a "free wheel" on a bicycle, permitting the vehicle higher speed than that at which it is driven, and requiring faithful, dependable service of the brakes. The 7 per cent. up-grade which followed was taken very slowly, beginning with a zig-zag course, but it was shown that it could be taken in a straight course as well. The rate of progress was estimated at 1-4 to 1-2 mile per hour; it was steady and uninterrupted, and I have never seen any similar or equal performance of a gasoline vehicle hauling 450 pounds per nominal horse power up a 7 per cent. grade. As a matter of fact, the motor was even then overheated, as it proved afterwards, and probably did not develop more than 10 or 12 horse power; for the following day, when the motor power had been deliberately curtailed to about 16 horse power, the vehicle ascended the same grade at a considerably more rapid pace. That the efficiency of the transmission device extends as low as 1-4 mile per hour, seemed to be clearly demonstrated; and on the second day, when a start was made from the compulsory stop at 132d Street, it proved to extend even lower, for the start was quite imperceptible. It was reserved for the steeper grade on 230th Street to test the efficiency to the bottom.

Arrived at 146th Street the hose connecting the radiator with the motor jacket was blown off, although the overflow pipe showed but faint signs of excessive steam pressure in the cooling coils. Much water was blown out at the same time, and it was necessary to get several pailfuls of water to replenish the supply. The motor was plainly overheated, but there was no opportunity to ascertain whether this was primarily due to an inadequate cooling coil, too small or inefficient circulation pumps or other causes. Probably the coil was at fault, because overheating did not occur in the afternoon of the second day, when the speed of the motor (and of the pump?) had been reduced by readjustment of the governor, which, I was told, acts on the admission. Delay from 10:40 A. M. to 11:16 A. M. At 11:25 A. M. a brief stop to inspect the ignition.

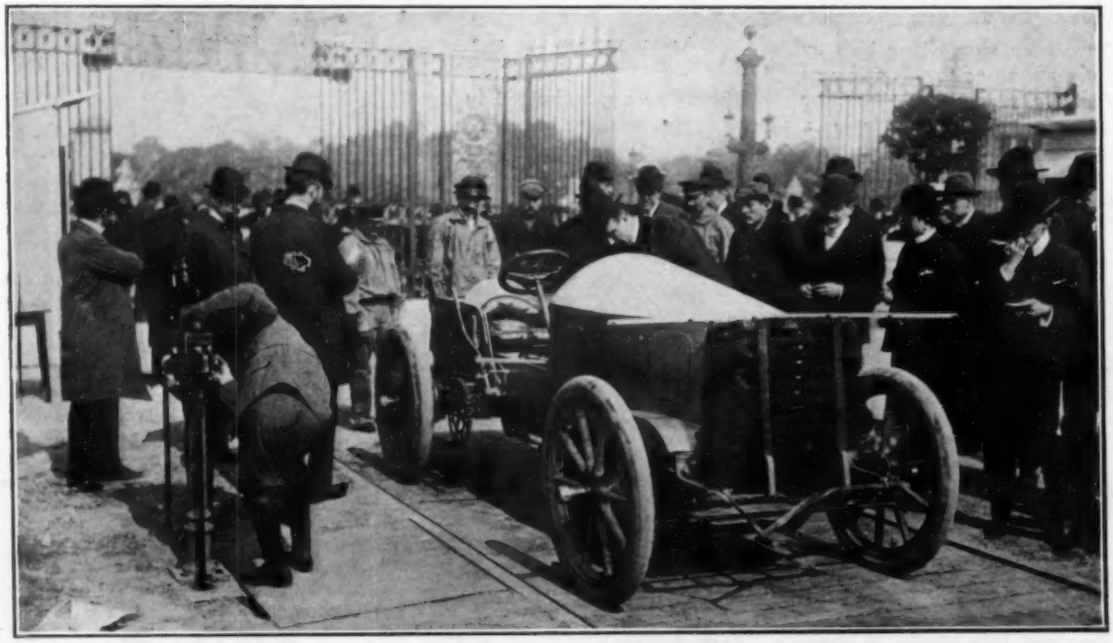
Being all three of us unfamiliar with the course, and with street signs very scarce, we now missed our route and proceeded straight out Amsterdam Avenue in search of 161st Street, till we reached Fort George and 194th Street. This point had been part of the route as originally laid out, and it did not seem strange to take it in, as the official map furnished no clue in this respect except to those previously familiar with the locality. At 194th Street the water hose blew off again and more water had to be secured. A new spark plug was also put in, unnecessarily. Retracing our path, we found 161st Street at 12:15 P. M., having lost about 48 minutes by the detour.

At 181st Street the water hose blew off again, with the same result as before, causing a stop from 12:25 P. M. to 1:04 P. M., but this time the remedy was applied in the form of readjustment of the governor, and thenceforth no trouble was experienced from this cause. The hot motor shaft bearings were copiously bathed from without. We reached 230th Street at 1:23 o'clock, and had two brief stops on the short 8 to 10 per cent. grade there; one of 2 seconds and the other of 5 seconds' duration, both due to the need of adjusting the speed gear by the hydraulic pump. Two similar stops of the wheels occurred on the Sedgwick Avenue grade on the beginning of the homestretch, and one on Fordham Road.

There was no occasion for observing whether similar or longer stops would necessarily occur when changing from forward to reverse, so that no data were obtained on the suitability of the construction for maneuvering in close traffic where it mgiht be required to back up against a platform by means of a quick succession of forward and reverse movements. The absence of this feature was probably a shortcoming in the plan of the contest.

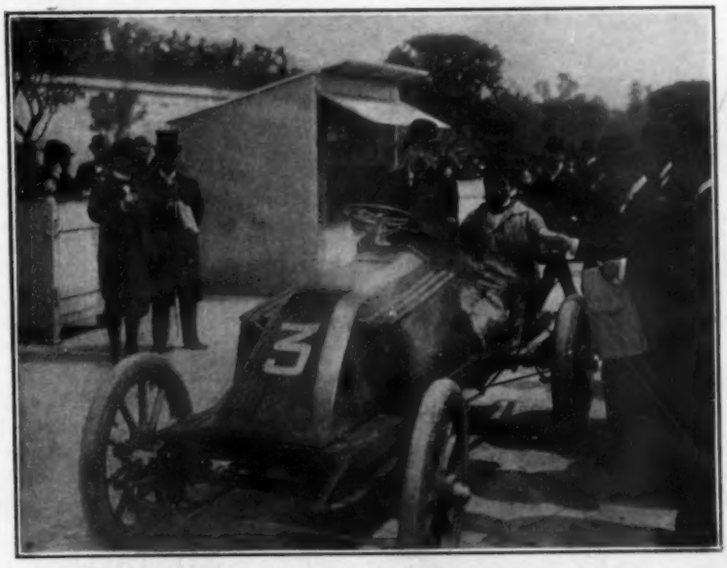
The home trip was delightfully uneventful, save that at 172d Street it was discovered that the radiator was working loose from its fastenings on the subframe. One bolt was sheared off and two had come loose. The mischief was apparently started by the loss of two nuts, insufficiently secured. Time lost from 1:48 P. M. to 2:13 P. M.

Barring a few traffic stops the Club House was now reached without incidents, the arrival being timed at 3:15 o'clock.



PREPARATIONS FOR THE PARIS-MADRID RACE, JARROTT WEIGHING IN DE DIETRICH CAR WHICH STARTED FIRST.

After lunch and lubrication (of the motor and wheel bearings) the second stage of the contest through the downtown district was commenced at 4.17 P. M. It was finished without any untoward happenings at 6.25 o'clock. At Battery Place Fred, the mechanic, thought it necessary to oil up and inspect the radiator fastenings, and on the wet asphalt, going down the Fifth Avenue grades, in a closely packed mass of moving vehicles of all descriptions and speeds we had our share of wheels slewing in a small way, but the driver was quite expert in counteracting this effect. When starting after a traffic stop, we were a little slow in picking up the power and gaining headway, but this was inconvenient to those behind us rather than to ourselves and was, after all, a question of seconds only.



LOUIS RENAULT, FIRST TO REACH BORDEAUX, IN 30 H.P. RENAULT CAR—BROTHER OF MARCEL RENAULT, WHO WAS KILLED IN IDENTICAL MACHINE.

We were ready to repeat the performance in the evening hours, but the club officials and the owners thought the 30 miles we had covered, besides the detour in the morning, should suffice. Hence the truck was taken to a gasoline supply station, and the tank was filled. It required 16 gallons, measured by a stable boy, to bring the level to where it was at the start, but the mechanic contended that the tank's capacity was only 16 gallons, and there was apparently about 3 gallons left in it. The consumption was thus 13 to 16 gallons for transporting 9,050 pounds in all and 3,240 pounds of useful load thirty miles. With an allowance for the two extra passengers the useful load might be considered 3,500 pounds, making 0.30 gallon per ton-mile of pay load.

On the second day the start was made from the club house at 9.17 A. M., and arrival within a few feet of the top of the hill on 230th Street, a distance of 10 miles, was recorded at 10.26 o'clock, making a speed over eight miles per hour, including five prescribed stops of 15 seconds duration each. One of these stops—at 132d street—was prolonged to 2 minutes partly from obstruction in the traffic and partly from delay in obtaining the right crank throw. At no point did the motor overheat, the governor adjustment being left unchanged from the day before, in so far as the observer could ascertain. No difficulty whatever was experienced, all other heavy trucks were passed on the road and a successful termination of the contest seemed within easy reach, when that thing happened which compelled the withdrawal of the vehicle from further competition.

RENE DE KNYFF IN HIS 70 H.P. PANHARD MACHINE, OPERATED WITH ALCOHOL IN PARIS-MADRID RACE.

Possibly influenced by a remark made by the observer, Ed, the driver, concluded to take the 230th Street hill at so extremely low a speed as to avoid the momentary stops for altering the speed ratio which we had had the day before on this hill. And in this maneuver he got below the best efficiency of the mechanism. The exceedingly short alternating thrust and pull of the rods, when the crank pin was barely off the center, moved the vehicle at a snail's pace up the hill at first, but when the rear wheels, near the top, found lodgment in a cavity in the road surface, the resistance became so great that the clutch rollers seemed to travel to and fro in their cages without taking hold. The friction ring may have traveled, at each working throw, hardly more than sufficient to cover the play in the mechanism. The wheels rocked slightly instead of progressing. Familiarity with the principle of the device would have counseled lengthening of the crank pin by pumping more oil under it, considering that we had scaled the grade on our first trip at a higher rate of speed. But a different method was adopted. The motor was stopped and then again started, going on the reverse. The vehicle was backed down the hill for a fresh start, so as to avoid the hole in the street when going up again (for a hill cannot be rushed with a vehicle of this construction) and the brakes were applied to soften the descent. The heavy truck gained some momentum, however, and behind it a railroad train was speeding over the grade crossing. Things looked threatening, and Ed did what was absolutely effective. He threw in the forward motion and the clutch rollers took a so decided hold that the vehicle came to an abrupt stop tipping the whole front portion, load and all, about 10 inches in the air. But this heroic measure was found to have been fatal. The vehicle would not budge forward or backward. The disk crank pin or the motor shaft had been sprung, it was stated. At any rate, the motor would no

longer move the load. While this result was instructive, there was no escape from the reflection that the mishap might have been averted if the brake system had been as effective as one would expect to find it in a vehicle with "free' driving wheels and which must therefore be controlled by the brakes alone on any down grade.

At this juncture the owners of the truck appeared on the scene, and, after inspection, ordered the withdrawal of the truck from the contest.

Subsequently the load was removed, and the vehicle proceeded under its own power over the rest of the route, arriving at the club house early in the afternoon.

Details of Driving Gear.

The engine shaft shown in Fig. 1 carries a flywheel in whose face there is a diametrical bore containing the plunger *C*. The crank pin *A* is screwed into this plunger so as to be normally in line with the engine shaft. The spring *D* holds the plunger and the crank pin in this position, unless the plunger is moved against the resistance of the spring by means of oil pumped into the oil chamber *F* under the end nearest the circumference of the flywheel. The more oil is pumped in, the farther the crank pin is removed from its central position, and the larger is the circle it describes when the engine is working. The movement communicated to the crank pin through the oil is comparatively slow, so that the throw of the crank pin cannot be suddenly increased. The oil is led through a hole drilled through the entire length of the engine shaft and its cranks, and is moved by a force pump connecting with the opposite end of the engine shaft through a stuffing box. When the crank pin is off the central position it drives the vehicle. To stop, the driver pulls a lever which opens a small valve which releases the oil slowly; a further movement of the same lever opens a larger valve; a still further movement applies a band brake on the compensating gear frame. The oil pump is connected or disconnected at the will of the driver by a lever throwing a ratchet pinion in or out.

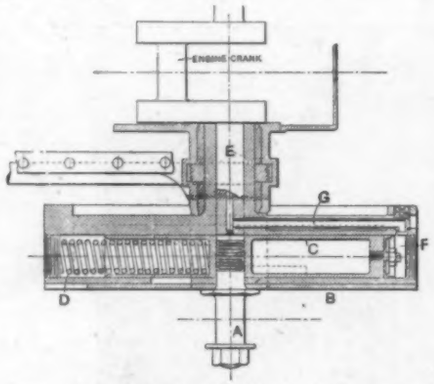


FIG. 1—ENGINE SHAFT AND FLY-WHEEL.

From the crank pin in Fig. 2, motion is conveyed to the rear axle by the arms *A*, *B* and *C*, whose front ends are pivotally connected with the crank pin, as shown, so as to move in a smaller or larger circle with it, according to the throw given the pin. The arm *C* communicates its motion through lever *D*, which is fulcrumed at its middle. The rear ends of these arms receive a motion which might be rectilinear, to and fro, if they were supported in straight-lined slide; but they are pivoted to rings *E*, *G* and *F*, which turn around a roller clutch device keyed to the rear axle. Their motion is therefore a to-and-fro rocking motion, which is idle in one direction, but turns the axle when the direction is that by which the ball clutches grip the drum keyed to the axle. If the arm *A* has a horizontal motion of 2 inches and the circumference of the clutch is 30 inches, it will take 15 revolutions of the crank pin to produce one revolution of the rear axle. Arms *B* and *C* serve to transmit motion when *A* is on

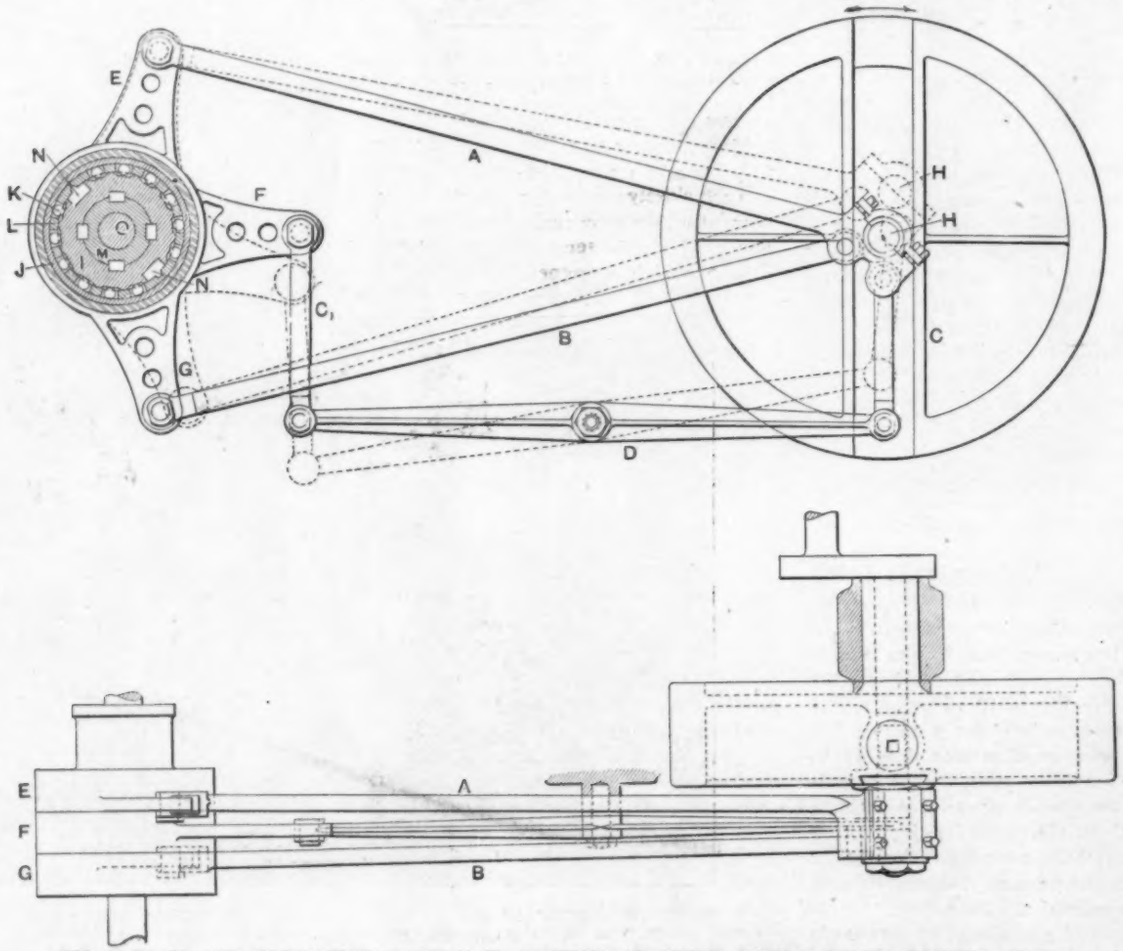
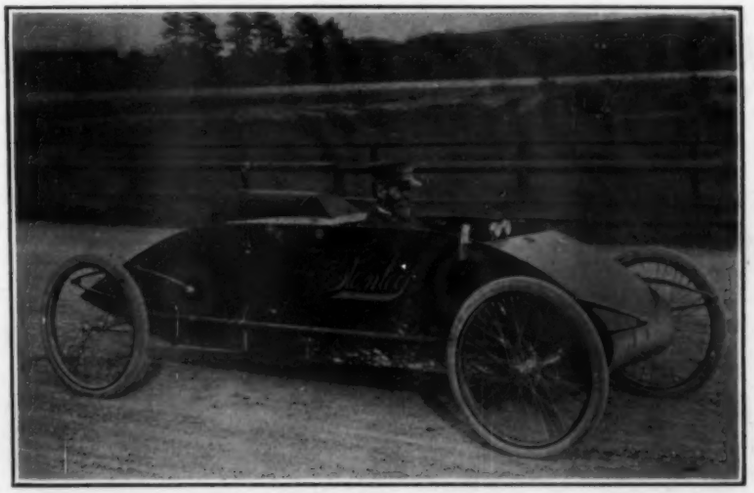


FIG. 2—PLAN AND ELEVATION PARTLY IN SECTION OF UNION MOTOR TRUCK DRIVING GEAR.

the idle stroke. *A* works by pull, *B* by push. The arm *B* is therefore subject to a compression stress; the lever *D* to a bending stress. The action of the rollers is reversible, and when it is reversed, the stresses on the arms are also reversed, of course. The manner of reversing is by reversing the shape of the roller cages. To this end the cradle in which each roller moves is inclined both ways, but the cage ring *L*, of bronze, which contains a slot for each roller can be moved so as to cover one or the other incline, thereby determining in which direction the rollers will grip. This is accomplished by moving the keys *N*, *N* in their seats, by means of the driver's reverse lever. In one of the positions of these keys a spiral feather pushes the cages around so as to prevent the rollers from gripping on that incline of their cradles where they gripped before.



STANLEY'S STEAM RACER WHICH COVERED THE MILE IN 1.02 4-5 ON THE READVILLE TRACK.

Records Broken at Readville.

(*Continued from page 588.*)

chine this year is all of aluminum, and has the two seats side by side at the front, a flat horizontal funnel instead of the round one of last year, and engine closed in. There was more surprise when Cannon's time was given also as 1:06.

Two races for gasoline cars were run off while the steamers were replenishing supplies and getting ready for the final run-off. When the steamers were called out again, Stanley again made the first trial. When he made his flying start he was close to the pole and going like a flash. Half of the spectators were on their feet and shouting as he fairly flew around the track and shot past the tape in what was promptly announced as 1:02 4-5. The intermediate times were as follows: Quarter mile, 16 sec.; half mile, :31 1-5; three-quarters, :46 2-5.

Cannon then made his second trial, but although he put up a fine exhibition and broke his own world's record made at the Providence track, he failed by about two seconds to equal the speed of the Stanley machine. His times by quarters were: :16 1-5, :33 2-5, :48 and 1:04 2-5.

The first event of the afternoon was a three-mile race for stock steam carriages. It brought together two Stanleys, with

18 H.P. MORS AT EMPIRE CITY TRACK.

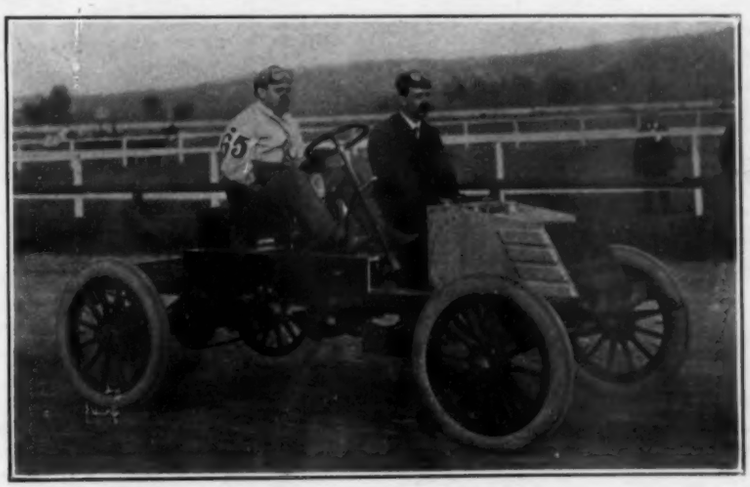
Frank Durbin and Louis Ross, up; a locomobile, driven by F. A. Hincliffe, and a White, driven by J. B. Jay. Durbin took the lead from the start, and had Hincliffe and Ross close behind, with Jay well to the rear for the first mile. Then Jay, using all his steam, passed the leaders, only to be distanced immediately when they, in turn, let out a little. Durbin was close pushed by Hincliffe when he crossed the tape a winner in 4:22 1-5.

The five-mile for motor cycles came second on the card. Joe Downey, on a Waltham, took the lead at the start, but was overtaken on the backstretch by J. Derosier and F. C. Hoyt, both on 1 3-4 horse power Indians. Derosier gave a splendid exhibition of speed, gaining a quarter of a mile lead by the end of the second mile, and a little later succeeding in lapping Frederick Tudor, of the Massachusetts Automobile Club, who rode a 3 horse power Orient. Derosier finished quarter of a mile ahead of Hoyt in 6:54 1-5, with Downey a quarter mile behind Hoyt, and Tudor far in the rear.

The third race was to have been the open event for steam carriages, with a Grout, Stanley and White entered, but E. B. Grout did not appear, and leaking gasoline set fire to the White on the backstretch. Frank Durbin, who drove the Stanley, withdrew at the end of the first mile.

Gasoline cars were pitted against one another for the first time in the five-mile race for vehicles under 1,000 pounds. H. V. Chamberlain in a 16 horse power Darracq took the lead from the start, but L. H. Roberts and W. Jameson, driving two 4 horse power Orient Buckboards, followed him up closely. A. R. Bangs, after delaying some time in getting his Franklin out on the track, was a tail-ender throughout the event. Chamberlain won in 9:08.

Harry Fosdick, in a 20 horse power Winton, seemed a likely winner of the five-mile race for gasoline cars weighing over 1,000 and under 2,000 pounds. He forged ahead at the start, closely followed by Frederick Tudor in a Winton, but although Fosdick managed to keep the lead for three miles, John L. Snow in a 16 horse power Peerless soon passed Tudor



FOSDICK DRIVING WINTON 20 H.P. RACING CAR IN READVILLE MEET.

and went after the leader, hanging close behind through the third mile. Then Fosdick began to lose ground, and as he came down the stretch his machine was wavering so badly that Starter Peck and others made haste to give him a wide path. But it was only a rear tire flat, and Fosdick stayed in until the end, although Snow took the lead and won in 7:58 3-5, while Kenneth Skinner in a 15 horse power De Dion passed the disabled Winton and ran second. As soon as Fosdick could get his machine off the track he had four or five helpers remove the injured tire, out of which they took a spike about as large as a lead pencil.

Fosdick, Snow and George G. Reed were together in the race for gasoline cars weighing more than 2,000 pounds. Snow had the lead for two miles, but he could not keep Fosdick from passing him, and by a pretty sprint at the finish Fosdick shot over the tape about 100 yards in the lead.

The Massachusetts Automobile Club's five-mile invitation race brought together L. R. Speare and Fred Tudor in 20 horse power Wintons, and F. E. Stanley, in a Stanley, and J. H. MacAlman in a 5 1-2 horse power Locomobile steamer. Mr. MacAlman took the lead with great confidence, but found in Mr. Speare a determined opponent, and the race was between these two. The Wintons almost closed with them several times, but never quite made it. Mr. MacAlman finished hardly more than a length to the good, winning in 7:56 4-5.

The pursuit race between Skinner and Fosdick, starting from opposite sides of the track, proved interesting. Fosdick got a poor start, but soon picked up, and managed to catch his rival at the end of 9 1-2 miles, in 12:56 4-5.

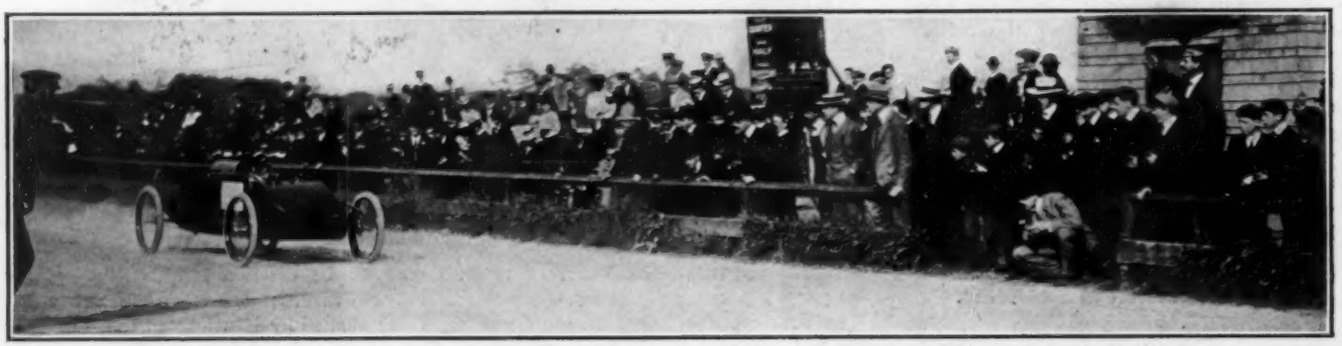
In the three-mile sweepstakes final, open only to winners, Snow, in a 16 horse power Peerless, and Fosdick in a Winton, were the only starters. Fosdick kept about ten feet ahead practically from start to finish, and won with a little more than that margin in 4:42.

There was some talk at the track before the races as to whether Mr. Stanley could properly run his special steamer in a race under the A. C. A. racing rules, as it could carry no person besides the operator. But this meet was sanctioned under the old racing rules, and as it happened the requirement in the rules would have made no difference, for the car was not run in competition, but against time.

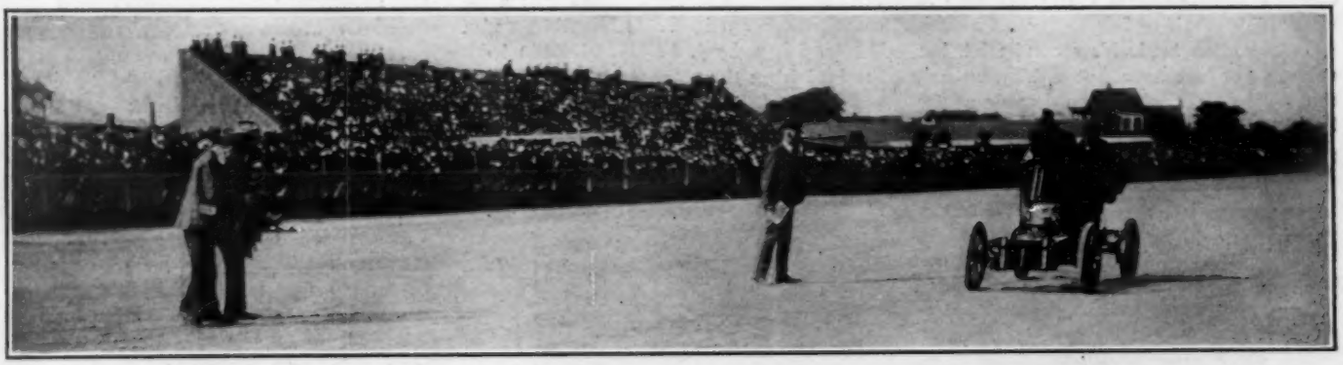
So far as construction is concerned, Mr. Stanley's special racer was the most radical departure from machines which he has operated before, but this was more in the boat-shaped body than in mechanism. The boiler was just behind the driver's seat. The operator's box gave access to the control levers in front, while a movable cover in the rear of the body gave an opportunity to get at the engine and pumps. The rig had a wheelbase of about eight feet, and the wheels were fitted with wire spokes.

Mr. Cannon's new machine has the two seats for himself and his assistant, T. I. Marsalis, Jr., close in front, with almost nothing to break the wind. Back of the seats rises the twenty-five-inch Oswego boiler, with its rearwardly bent funnel on top. The engine is an 8 horse power Mason. Back of the boiler, the low body sloped gently to a point just back of the rear axle, giving a length over all of ten feet. The wheels were of wood, with lugs between each two spokes to hold the tires. The frame was of channel iron, reinforced with wood. Mr. Cannon used wheel steering, while Mr. Stanley used the side lever, but both carriages were geared direct to the rear axle.

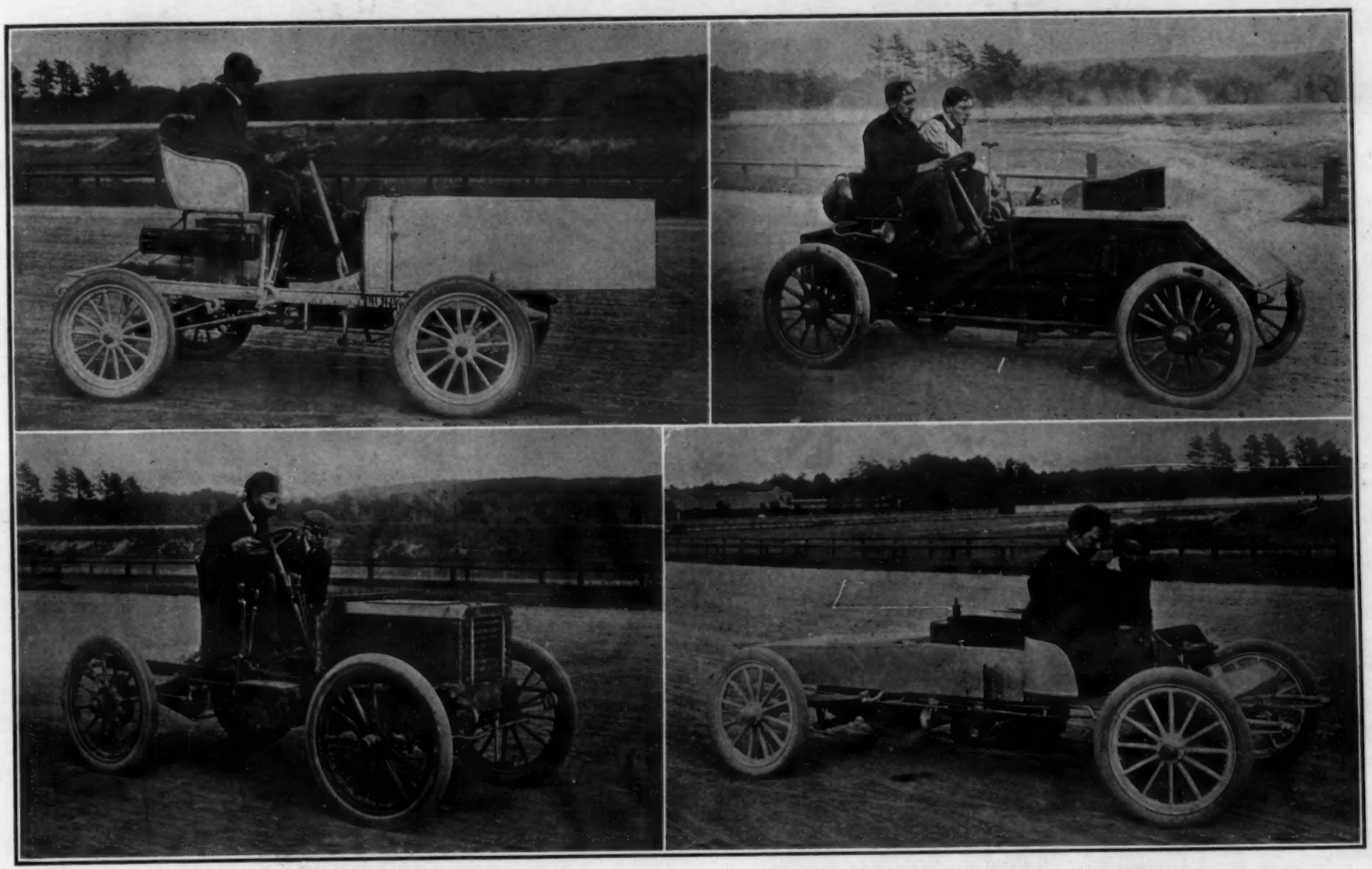
The Grout car, which was to have run with these, had a nine-foot wheelbase and hung hardly more than a foot from the ground. Its two seats were side by side, at the extreme rear, the twenty-four-inch boiler and engine throwing the weight rather more on the front wheels than on the rear. A distinctive feature was a "scoop" on top of the bonnet in front, which opened toward the front and sucked in the air around and behind the boiler to give the desired draught for the burner. The machine was steered with a wheel, and had its throttle mounted high, just in front of the steering wheel, where it could be reached without leaning away from the wheel.



STANLEY SPECIAL STEAM RACER BREAKING THE WORLD'S RECORD AT THE READVILLE TRACK RACES.



CHAMBERLAIN IN DARRACQ CAR WINNING THE 5-MILE FOR VEHICLES UNDER 1,000 LBS. AT READVILLE TRACK.



White Steam Racing Car Fitted With Wedge-shaped Forebody.

John L. Snow in 16 H. P. Peerless Gasoline Racing Car.

Charles Grout Driving Special Grout Steam Racing Machine.

George Cannon (Harvard University) Driving His Powerful New Steam Racing Machine.

VIEWS OF STEAM AND GASOLINE RACING CARS THAT WERE ENTERED IN EVENTS IN THE READVILLE (BOSTON) TRACK MEETING ON DECORATION DAY.

America's Champions in Gordon Bennett Contest Attend a Farewell Banquet.

Special Correspondence.

CLEVELAND, May, 27.—A farewell reception was tendered the American team that will strive to win the Gordon Bennett trophy in the international race in Ireland on July 2, by the members of the Cleveland Automobile Club at the Hollenden Hotel last evening. The event was noteworthy from the fact that all three members of the team are members of the Cleveland Automobile Club and will ride machines built in this city.

Alexander Winton, captain of the team, sat at the right hand of President E. Schriver Reese, while L. P. Mooers occupied the seat at his left. Owing to an important engagement, Percy Owen, the third member of the team, was unable to be present, but sent a telegram of regret which was read by Charles Shanks.

AN ENTHUSIASTIC GATHERING.

It was a most enthusiastic gathering of the automobilists of Cleveland who did homage to the men in whom America has placed her faith in the new sport. It was the general sentiment of those who spoke that it would be a hard task to bring the trophy to America, owing to the fact that Americans have had but little experience in road racing, having confined their fast work to the track, but the opinion was freely expressed that if the cup is ever brought to this side, it will be as difficult to take it back as it is to take the international yachting cup back to England.

About thirty club members were present, besides the invited guests, and when they entered the magnificent banquet hall, they were dazzled by the decorations in pink and white roses. In the center of the room were three miniature automobiles made in flowers to resemble Winton's Bullet II, Mooers' Peerless and Owen's Winton racer.

MASTER OF CEREMONIES.

President E. Shriver Reese was master of ceremonies and in a brief address he gave welcome to the American team.

"As Clevelanders," he said in part, "we may feel justly proud of the fact that in Cleveland and within a radius of 150 miles of the city are manufactured nearly four-fifths of the automobiles made and sold in this country. As members of the Cleveland Automobile Club we may justly feel proud of the fact that the team officially selected to represent America in the great international contest for the Gordon Bennett cup is composed exclusively of members of our club.

"It will doubtless be of interest to all to learn that this Gordon Bennett trophy owes its inception to an incident that occurred in Mr. Winton's famous run from Cleveland to New York in the spring of 1899. When he reached Albany he was met by a New York *Herald* reporter with a cablegram annoucing that the Paris-Bordeaux race had been won on an average speed of thirty miles an hour, and directing the reporter to cable Winton's average speed and his views as to the high speed, thirty miles an hour, that had been accomplished. Mr. Winton's average speed from Cleveland to Albany had been fifteen and one-half miles an hour actual running time. When advised what occurred abroad and knowing the vast difference in the road conditions, Mr. Winton expressed the opinion that if we had such roads in this country, it would be easy to build a machine that would make an average of thirty miles an hour or better for the same length of run. For reasons best known to the reporter, he construed this as a challenge, which was immediately taken up and hotly discussed both in this country and abroad. To give definite shape to the controversy, Mr. Gordon Bennett of the *Herald*, offered what is now known as the Gordon Bennett international cup, to be contested for annually by teams selected on a national and international basis.

OUR INDUSTRIAL PROMINENCE.

"You will agree, therefore, that we not only have cause to be proud of our industrial prominence in the manufacture of automobiles, and of the fact the American team this year has been selected exclusively from the membership of our club, but also for the fact that the genesis of this now famous trophy is interwoven with the experiences of one of our club members. The first contest for this cup was in 1900. It was won by Charron for the Automobile Club of France. In this race, as you know, Mr. Winton had covered only a part of the distance when an unfortunate accident to his machine put him out of the contest. The cup is now held by S. F. Edge of the Automobile Club of Great Britain and Ireland.

"It is stipulated that these annual contests shall take place in the country represented by the successful team of the previous race. We want to see the next race negotiated on American roads. I have never claimed to be a prophet, either in matters concerning automobiles or otherwise, but I feel safe in predicting that if we ever get that cup in America, it will surely stay here as persistently and as aggressively as the international trophy for our yacht racing; and I wish to follow this prediction by the assertion that if it is possible under the present conditions for any American team to win the cup this year, our team can do it."

ALEXANDER WINTON REPLIES.

Alexander Winton, captain of the team was called upon and responded with a brief address in which he gave thanks to the members of the club, assuring them that he would do all in his power to bring the cup back to America. L. P. Mooers spoke in the same strain, and both were given a hearty round of applause. Speeches were made by John Hartness Brown, Charles B. Shanks, Thomas E. Rook, Rollin C. White, Leo Melanowski, E. E. Schwarzkopf and others.

Others present were George Collister, Walter Baker, W. F. Sayle, J. C. Trask, L. D. Schoenberg, Thomas Henderson, Charles T. Draper, H. P. Dyer, Clarence M. Brockway, L. E. Hoffman, A. W. Schawaker, P. L. Hussey, L. H. Kittridge, W. H. Kirkpatrick, Frank I. Harding, Frank C. Gates, J. A. Carter, F. S. Borton, and F. E. Taylor.

Alexander Winton and Percy Owen sailed from New York on the *Campania* last Saturday for England. L. P. Mooers will sail on June 10.

EIGHTEEN CARS COMPETE IN COLORADO ENDURANCE RUN.

Special Telegram.

DENVER, May 30.—Eighteen motor vehicles representing the most prominent makes, took part in the endurance contest which was run with great success today by the Colorado Automobile Club. Several cars from Colorado Springs were entered and the event aroused considerable interest throughout the State. The course, from Denver to Palmer Lake and return, had many miles of sandy road and several sharp, bad turns, but only two accidents are reported. A Locomobile broke a part of its steering gear before getting out of Denver, but the damage was repaired in seventeen minutes and the trip was finished. A Rambler car upset several miles out of Denver, but no one was hurt and at a late hour word was sent in that the machine would finish the run.

The first machine was sent away at 8 A. M. and the others followed at intervals of two minutes. The average maximum speed permitted was 14.047 miles an hour. Each car carried an official observer. Dr. F. L. Bartlett officiated as judge and E. A. Sperry as timer. The results of the contest will be sent by mail, together with photographs.

Two Race Meets for Cleveland.

Special Correspondence.

CLEVELAND, May 30.—It seems probable that Cleveland will have two automobile race meets this summer. One will be the Winton-Fournier match race, which will be managed by independent parties, and the other an affair that is being arranged for by the Cleveland Automobile Club. It was thought at first that the two events would be combined, but it is now thought that in view of the enthusiasm

there is certain to be here this summer on account of the important part Cleveland is playing in racing affairs, two race meets would not be too many.

The club meet will be held at Glenville in the middle of August. Races from one to twenty-five miles, and possibly fifty miles, will be arranged. A number of foreign automobile drivers will be in the country at that time, and advantage is to be taken of their visit to have them meet here for championship honors. The two Winton cars to be used in the Gordon Bennett race, as well as several others of foreign make, will appear on the track.

It has been decided that the prizes offered for the Paris-Madris race shall be returned to the donors.

CANADIAN CUSTOMS DECREE AGAINST AUTOMOBILES IS MODIFIED.

Special Correspondence.

BUFFALO, May 30.—It was announced a little more than a fortnight ago that the Canadian government would charge full duty of 25 per cent. ad valorem on all American automobiles entering Canada. This meant that not only automobiles that were made in America but those of other makes used in this country would have to pay the duty every time they were taken into that country. This caused much comment in Buffalo and a number of automobilists of this city found that the Canadian officials intended to rigidly enforce the law. The first Buffalo man to learn of the order by practical experience was Edwin Leslie, who has a summer home near Crystal Beach, Canada. One Sunday he wanted to run over to it in his machine. He crossed the Niagara River with his machine on the ferryboat and landed at Fort Erie, where he started to ride away when he was stopped by the Customs Inspector and informed that he could not bring his automobile into the country without paying duty. Mr. Leslie rebelled at the order and returned on the ferry.

Enforcement of the order meant a great decrease in the business of Canadian establishments along the shore and roads leading to resorts which were very popular with American automobilists last year. The Customs Inspector explained that the government had issued the order to secure self-protection, because complaint had been made that automobiles had been taken into Can-

AMERICAN TEAM AND MACHINES THAT WILL REPRESENT THE UNITED STATES IN THE GORDON BENNETT CONTEST.

ada without paying duty and then been sold there.

However, the order did not long affect Buffalo automobilists. A few days ago notice was sent to the customs inspector at Fort Erie by the authorities at Ottawa that automobilists will not have to pay a duty of 25 per cent. in order to take their machines into Canada. The notice reads as follows:

"Known tourists crossing every day will not have to put up a deposit on automobiles, but must give undertaking for their return. It would be advisable for tourists or others to bring proper description and number of automobiles."

This order was received by Buffalo automobilists with satisfaction, as the requirement of payment of duty each time they went into Canada with their machines meant that they would have to abandon many delightful trips in that country.

Doubtless arrangements will be made by the Automobile Club of America for the admission of contestants in the October Reliability Run to Montreal with their machines under this modifying order without payment of duty.

SPARK GENERATOR MAKERS ORGANIZE IN INDIANAPOLIS.

Special Correspondence.

INDIANAPOLIS, May 30.—All but two of the factories making mechanical igniters in the United States for use in gas and gasoline engines were represented at a meeting held at the English Hotel last Tuesday afternoon, at which a permanent organization to be known as the Mechanical Spark Generator Association of America was formed. A dozen manufacturers of igniters were in attendance, representing an industry that is less than nine years old, but is growing rapidly to keep pace with the expansion of the automobile, gasoline launch and stationary gas engine business, and those engaged in it felt the need of organization for the promotion of their mutual interests.

The object of the association is to bring the manufacturers in closer touch with the needs of the trade and to discuss the proper line of improvement and the best application of mechanical spark generators to gasoline engines. The scope of the association will be broad.

Officers were elected for the ensuing year as follows: President, V. G. Apple, Dayton, O.; secretary-treasurer, B. E. Tritt, South Bend; advisory committee, E. R. Harding, Chicago; H. N. Motsinger, Pendleton, Ind.; and Frank Remy, Anderson.

The next meeting will be held in five or six weeks, at the call of the president. Among the subjects given out for papers to be read then were: "The Advantages and Economy of Mechanical Spark Generators vs. Battery Ignition," and "The Touch Spark and Jump Spark—Their Uses and Limitations."

Graphic Account of the First Stage of the Paris-Madrid Race.

Gabriel Covers the 342 1-2 Miles Versailles to Bordeaux in 5 Hours 13 Minutes—Crowds at Start Endangered the Contestants—Arrivals at Bordeaux—Scenes in the Tuileries During the Weighing in of Three Hundred Cars.

SPECIALLY REPORTED BY EDWARD KENEALY.

PARIS, May 25.—Gabriel, on a new 90-horse Mors, has pulverized Fournier's best record from Paris to Bordeaux. Fournier's corrected time stood at 6 hours 11 minutes. But it must be remembered Fournier started from Suresnes, while Gabriel's starting point was Versailles, 8 miles nearer Bordeaux.

Gabriel covered the 342 1-2 miles from Versailles to Bordeaux in 5 hours 13 minutes, after deducting neutralization. This works out at an average of 65 miles an hour. Over down grades on the route his speed reached 100 miles an hour. He accomplished this in spite of the grave disadvantage of starting 121st, overtaking 118 cars, and speeding through blinding swirls of dust, arriving third at Bordeaux.

Gabriel, on a 90-horse Mors, came in second to Jarrott, on a 70-horse Panhard in the Ardennes Circuit last year. Jarrott covered an average of 54.5 miles an hour, Gabriel averaging only 53 miles per hour.

In the first stage of the Paris-Madrid race Jarrott ranks fourth, taking 5 hours 51 minutes 55 seconds, as compared with Gabriel's 5 hours 13 minutes. Gabriel is a noted high speeder. M. Louis Renault, on a light Renault car, took 5 hours 33 minutes 45 1-5 seconds to cover the distance between Versailles and Bordeaux, beating M. Salleron, who drove a 70-horse Mors, and whose time is 5 hours 45 minutes 1 4-5 seconds.

The start of the greatest motor race ever run was a magnificent sight. From Paris to Versailles the preceding night the road was thronged with sightseers, motorists and motor cyclists. Ten thousand motor cars and 1,000,000 pedestrians and cyclists were said to have traversed the road leading from Paris to the starting point at Versailles. The starting point was marked by a simple arch festooned with French flags. All of the bicycles carried lighted Chinese lanterns. The garden of the Trianon, full of memories of Marie Antoinette, echoed with the horns and tooters of motor cars, motor cycles and bicycles.

Versailles was beautifully illuminated and decorated, but the streets were well-nigh impassable. Thousands were picnicing in the streets, eating sausages, brandishing wine bottles, chattering, jesting and merry-making in noisy Continental fashion. Cyclists strapped loaves of bread and bottles of claret across their shoulders.

None of the racing men attempted to go to bed. Sleep was impossible in such a pandemonium. The hotels were crowded, and fully 2,000 persons slept out in the open. The weather was dry and hot. All the cafes kept open throughout the night. Several hundred thousand persons were spread out between Versailles and the first few miles of the race course.

A substantial supper was served about 2:30 A. M. on Sunday, May 24, to the early starters. Dawn was just beginning to break and the outline of the trees began to show in the lightening sky when Foxhall Keene, W. K. Vanderbilt, Jr., Fournier, Jarrott, René de Knyff, the two Farmans, Baron de Caters, Hon. C. S. Rolls, Mr. Mark Mayhew, and many other motor-racing men came out to see Jarrott's 85 horse de Dietrich pilot the racing way.

The actual starting point of the race was on the St. Cyr Rambouillet Road leading out of Versailles. The special Paris-Madrid train had been at Versailles all night—the passengers sleeping on board ready for a sight of the start. By 3 A. M. the hard-worked officials of the Automobile Club of France had everything in readiness. It was almost impossible to keep back the crowds. They almost rushed into the very jaws of death, only skipping out of the course when the racers were a few feet distant from them. All the competitors complained that they were afraid to let their cars out on this account.

In a white cap and umbrella waterproof coat Jarrott came forward. Hundreds tried to shake hands with him.

At 3:15 a series of magnesium flashes showed photographic activity. Jarrott stopped at the ribbon stretched across the road, looking resolute as ever. Here he and Fournier cordially shook hands and chatted till a tremendous explosion shook the spectators' nerves. It was the signal to get ready. Jarrott was given one minute to settle himself—and adjust his goggles. Then came another explosion. This meant off.

It was now 3:45 A. M. At the word go, the Ardennes winner gave a quick jerk

(*Continued on page 607*)

Mark Mayhew with one of the Napier Cars. The other Napier Car entered in the Madrid Race by S. F. Edge did not start.

Baron de Caters in 90 H. P. Mercedes—also Entered for Cup Race in Ireland. This Size of Mercedes proved Inferior to 60 H. P. Model in the Paris-Madrid Race.

Weighing the Cars before the Madrid Race. Car in the Center is the 70 H. P. Mors, driven by Augieres, who Beat Fournier's Kilometer Record.

W. K. Vanderbilt, Jr., in 70 H. P. Mors Car. Cylinder Head Blew Out and Car Ditched at Rambouillet.

PREPARATIONS FOR THE PARIS-MADRID RACE, FROM PHOTOGRAPHS TAKEN FOR "THE AUTOMOBILE" BY BRANGER & DOYE, PARIS.

THE AUTOMOBILE

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SATURDAY, JUNE 6, 1903.

REMOVAL NOTICE.

Constantly increasing demands for floor space compel the removal of the publication office of THE AUTOMOBILE from its present location at 395 Broadway to a suite of offices in the recently completed Flatiron Building, corner of 23d street and the intersection of Fifth Avenue and Broadway, New York. The editorial and counting rooms will be opened on the 9th floor of the new building on June 10th, after which date all communications should be directed to the new address.

THE CLASS JOURNAL CO.

AUTOMOBILE RACING.

The race meeting at Yonkers on Decoration Day was the most successful affair of the sort ever promoted in the metropolitan district of New York. Notwithstanding that there were a dozen more or less popular out-door attractions on that day in and about New York, the events at the Empire City Track gathered a truly metropolitan crowd of several thousand enthusiasts. Those who did not go to the track in automobiles had to put up with the great inconveniences of travel on overburdened trolley systems, as the track is located at a considerable distance from the railroads. They were rewarded for their pains, however, by seeing world's records smashed and, as far as it went, a good programme of less spectacular racing. It is a cause of some regret, however, that American machines were not more in evidence in the races. Even though our makers have not made a business of building fast high-powered racing cars, to anything like the extent of the foreign constructors, there are enough speedy cars on the market to have made a good showing. By a careful system of handicapping, ordinary touring cars of various powers would afford good sport. Their speed from a time standpoint might not be spectacular, but close finishes would give the spectators the expected excitement.

At the Readville meeting in Boston on the same day, the conditions were more creditable to our builders. There, a number of cars built in American shops took part in an excellent programme and a new world's record was established.

A large section of the general public is interested in racing in all its forms, and there is no surer way for a manufacturer to attract favorable public notice than by success in automobile racing events.

THE MOTOR CAR AND THE PUBLIC.

In this issue we publish an account of the Paris-Madrid race, or rather, as much of it as was run, written by an eye-witness, who is also a widely known expert. He states that at the very start of the race the spectators crowded into the course, and that it was impossible for the contestants to drive at the higher speeds. With this state of affairs at the start, where control of the course should have been comparatively easy, it is not a matter of surprise that the conditions further along the route were much worse and that several fearful accidents finally put a stop to the race. It is hardly credible that any body of men as experienced in road racing as the officials of the Automobile Club of France could have so failed in their duty. Possibly the success of similar events in the past caused them to take things easy, to trust largely to luck that no mishaps would occur. Under the conditions, the number of persons injured is small when the number of contestants and conditions of racing are considered. There has, however, been a great deal of rubbish written about this most deplorable affair. Much pharasaical denunciation of the officials has been gone in for on this side of the Atlantic by writers who know full well that in a single grade crossing slaughter or railroad smashup, due to reckless disregard of ordinary precautions, a list of killed and wounded has resulted that far overtops the Paris-Madrid disaster.

Now comes word from Paris by cable that the authorities are considering new regulations which would prohibit French manufacturers from building cars capable of attaining a higher speed than twenty-two miles an hour on the road. While it would be to the advantage of our builders to have such a law in force, and so cut out the sale of French cars on this side, we would greatly regret, from an engineering point of view, the enforcement of such a retrogressive measure.

As a matter of fact the reasons for the sad end to the great French event lie deeper than any question of management or mechanical construction. The public, wherever situated, has not yet come to realize what the automobile is and what it is capable of. The motor car has grown toward perfection much more rapidly than the public has been able to absorb and understand its possibilities. Most people who are not connected in some way with the industry or sport will be found to be antagonistic to the machine. Conversation invariably reveals the fact that this is founded on want of knowledge and prejudice. Talk with an educated person, even, who has not had contact with automobiles and you will find that he has only the vaguest notions on the subject and is ready to believe any sort of preposterous story about the machine.

The possibilities of the railroad, its uses, its dangers, and its limitations, have come to be well understood in civilized communities. Not so with the automobile. A man will voluntarily stand in the way of an auto traveling fifty miles an hour and upward, who could not be hired to walk ahead of a train traveling at half that speed. Time is the only cure for troubles of this sort. Supplementing the influence of the automobile press every user can act as a missionary and help hasten the day when the motor car will be as well understood as the horse and carriage, the railroad train, the steamboat and the more recent trolley car.

BAILEY LAW BREAKERS.

From various parts of New York State, and especially from Long Island, reports reach us that drivers of fast machines take advantage of a technicality in the Bailey law, and drive at the highest speeds in thickly settled districts, regardless of the consequences. Under the new law, the enforcement of speed restrictions seems to depend upon the placing of signs in the neighborhoods where the residents desire to enforce these restrictions. In few places have these signs been placed on the roads and consequently the inconsiderate and reckless drivers are enjoying a fool's holiday.

Aside from any question of morals, this policy is suicidal. The mean advantage taken of the dilatoriness or leniency of small communities is sure to arouse a strong feeling of resentment, and an opinion that severe as are the provisions of the Bailey law, they are not severe enough for the regulation of automobile traffic.

It is the duty of every automobilist under these circumstances to take special care in passing through small towns and villages. There will thus be created a

feeling of friendliness which is likely o lead to a modification of the law in practice. The suburban and rural communities, knowing that if need be they can make things extremely unpleasant for motorists, will be inclined to meet them half way, if consideration and not defiance is manifested. Motorists should not forget too that special laws such as the Bailey law, no matter how enforced, do not release them from their common obligations as road users. In case of accident or personal damage suit, the criminal or financial responsibility of a motorist is not set aside by any special state or local speed regulations. Recklessness and unsportsmanlike disregard for the comfort and safety of others is sure to be considered by judge and jury in legal proceedings.

WHERE HEAD WORK COUNTS.

To the information in the article on "Diagnosing Gas Engine Ills," elsewhere in this issue, it will not be amiss to add for the benefit of the novice a well-worn but still serviceable word of advice. When the motor balks, don't waste energy in grinding the crank, but study the symptoms and find the trouble. A first-class carbureter will give the motor a correct mixture on the first turn of the crank after priming, and if the motor has been stopped within half an hour even priming may be unnecessary. At the most, the second or third turn should give the right mixture, and if an explosion does not then occur it is in nine cases out of ten useless to add more turns or to prime again. Something is wrong, and the thing to do is to hunt for it.

Under such circumstances the first step is usually to investigate the spark plug, as being the likeliest thing to get out of order. It is not improbable, however, that with improved plug construction and the general adoption of the auxiliary spark gap, this order may be somewhat changed, and in that event the weakest point will depend largely on the particular machine. The ideal condition will be that wherein every function of the motor is mechanically controlled, and can go wrong only through visible mechanical derangement. Though we have not reached that stage, we are steadily approaching it, and the diagnosis of symptoms is easier every year. Meanwhile head work will beat elbow grease every time.

Don't "crank;" investigate.

Growth of the Spirit.

G. A. Soline—"It's outrageous the way the motorist is being treated in the papers these days."

S. P. Arkcoil—"Anything in particular, this time?"

G. A. Soline—"In particular! Listen here at this headline—'Auto Runs Down Locomotive!'"

FIRST STAGE OF THE PARIS-MADRID RACE.

(*Continued from page 604.*)

to his lever. He guided the motor monster as calmly and easily as though it had been a piece on a chess board. A thunder of applause and he disappeared in the dust.

One minute later M. René de Knyff, an old winner and regular dare-devil driver, grasped the lever of his Panhard and was off. In 60 seconds more Louis Renault was scorching over the course.

By 7 A. M. 250 motor cars, heavy and light ,as well as motor cycles, had started on their way and most of the crowd went somewhere to get some sleep.

W. K. Vanderbilt left at 4.18 A. M. on his 70-horse Mors, one minute after the Hon. C. S. Rolls, who abandoned the race at a very early stage.

W. K. Vanderbilt, who was number 60, was unfortunate at the start as his motor got out of control among the crowd. Happily nobody was hurt. Also he reached the starting point one minute late and the officials detained him another minute discussing his late arrival. His bad luck followed him, for at Chartres he and Baron de Forest and Fournier abandoned the race owing to breakdowns in their cars.

Chartres apparently is an ill-omened spot for motor cars. For here Marcel Renault, winner of the light car class in last year's Paris-Vienna races, in endeavoring to avoid a collision with the locked gates of a level crossing, turned his car into a ditch. The car collided with a tree, overturned, his chauffeur was killed and he received fatal injuries. His brother, Louis Renault, who stood second in the Paris-Bordeaux race, abandoned the contest and went back in his racing car to Chartres, where his brother lay dying in the hospital.

Thus M. Salleron ranks second and Jarrott third in the race. Loraine Barrow, who is stated to be an American, started fifth on a de Dietrich car. He ran over a dog and was overturned in the village of Arveyeres. His chauffeur was killed and Mr. Barrow, seriously injured, was taken to a hospital.

Already, from the terrible number of accidents which have happened, the race is known as the Paris-Madrid massacre. Truly, it has been a race unto death, though at the moment of writing there are so many rumors of death and disaster one would think the road from Versailles to Bordeaux were literally strewn with the dying, the dead, and the mangled remains of all those motorists who set out joyously at dawn on the ill-omened twenty-fourth of May.

Georges Richard had an accident and broke several ribs. Stead, who established a hill-climbing record at La Turbie, Nice (where Count Zborowski was killed), in April, 1902, on his de Dietrich, was thrown out and injured. He was reported dead, but a private telegram assures me he is in no danger, though his mechanician is injured. We are all hoping that many others reported dead will come to life in similar fashion. Mr. Stead's accident happened while trying to pass a car ahead of him. The vehicles came into collision and both were overturned.

L. Porter, an Irish motorist who drove a 50-horse Wolseley, was reported burned to death. It is true that his car overturned and caught fire. Mr. Porter was badly burned and his companion, Mr. Nixon, of Belfast, was caught under the overturned car and incinerated.

Our special train reached Bordeaux at 11.30 o'clock, fully an hour before the arrival of Louis Renault at the control, several miles from the center of the town.

Here rigid inquiry failed to reveal any reported catastrophe to any American competitor.

The road from Versailles to Bordeaux was formerly considered an ideal racing course. But that was in the days of 30 to 40 miles an hour when the turns and bends in the road could safely be taken without slowing down. These bends present grave dangers now that cars speed along at 80 miles an hour, and must reduce their rate by half in order to safely negotiate the corners. A man needs a cool head and calm judgment in order to calculate at lightning speed just how quickly he may venture to take these road bends.

When Louis Renault reached the control at 14 minutes 45 seconds after noon, he looked like a moving sandhill. He was received with mighty cheers, for he started third and had thus got ahead of Jarrott and de Knyff. A hearty British and foreign welcome rose as Jarrott loomed in looking alert and handsome—but very dusty and thirsty. He arrived at 12.30.55 sec., having had four stoppages by the way. At one time only three of his four cylinders were acting. Another stop was due to a choked gasolene pipe, and two others to magneto-ignition troubles. Few had expected him to face the starters at all, since there was great difficulty in reducing the weight of his car, and the motor was changed at the eleventh hour. His car was not ready until 7 p. m., the night preceding the race, and he had never tested its highest speed until he actually started in the race from Versailles.

Gabriel, the winner of the first stage, was the third man in at Bordeaux, at 1 hour 8 minutes 31 1-5 seconds. His starting number was 168, but in reality he started 121st, owing to competitors dropping out of the contest. Salleron, on a similar Mors, who ranks second in the next stage owing to Louis Renault abandoning the race on account of his brother's death, was in fourth. Thirteen cars had turned up by 2 p. m. Among these were the following cars:

Panhard, driven by Berteaux; Mors, driven by A. Fournier; Serpollet, driven by Le Blon; C. G. V., driven by Voigt; Mercedes, driven by Jenatzy; Turcat Mery, driven by Rougier; Mercedes, driven by Warden; Panhard, driven by De Crawhez; Darracq, driven by Baras.

Then the first Gordon Bennett car, a 90 horse power Mercedes, driven by Baron de Caters, arrived. This was followed by a 40 horse power Mercedes, driven by M. Max; Page's Decauville and Chauliaud's Serpollet followed at close intervals. Then arrived Gastaud's 60 horse power Mercedes, a Darracq, driven by M. Hemery; another Mors, piloted by Angiers, and Pellisson at the helm of a de Dion.

By 2:45 o'clock 24 cars has thus arrived. Another of the Mercedes Gordon Bennett team, driven by Hiéronymus arrived forty-second. Of the 216 gay competitors of the early morning, only 68 had turned up by 6 p. m.

No American or British driver save Jarrott put in an appearance up to 7:30 p. m.

A picturesque element was the lone woman contestant, Mme. du Gast, in her white Dietrich car, No. 29, which she conducted with great skill and speed. She was also the only woman who took part in the racing section of the Paris-Berlin event. By her courage she has gained the reputation as the one "perfect sportswoman" of Paris. When Mme. du Gast reached Bordeaux at 5:30 o'clock the spectators gave her a splendid reception that must have gone far to compensate for the trials and perils of the race. Her car was beautifully beflowered when it left Versailles. A few ragged, dusty blossoms remained, and a fresh bouquet thrown in en route and another presented on her arrival were all that remained of the floral tributes of the morning.

All the illuminations and festivities arranged by the Bordeaux Automobile Club have been countermanded as a mark of respect and mourning for the dead and injured drivers and mecaniciens.

Rene de Knyff, who has always held a place near the top in the great races, had chosen alcohol mixture instead of pure gasoline as fuel for his machine, which as usual was a Panhard-Levassor, 70 horse power. Others who used alcohol instead of gasoline were Baras in a Darracq and Rigolly in a 100 H. P. Gobron-Brillié car. In fact, all of the five cars of this make were operated with alcohol, and three of them were of 100 horse power.

Weighing and Sealing Cars in the Tuileries Gardens.

Stripped of every ounce of superfluous weight and in racing trim, 300 motor cars and motocycles passed the weighing scales of the Automobile Club of France during the week ending May 22. The government gave up part of the magnificent Tuileries Gardens to the club and Customs House officials for four days, for the French Government, unlike all others, fosters the great automobile industry.

In a railed-in portion of the Tuileries Gardens, two minutes walk from the clubhouse in the Place de la Concorde, wide and deep holes had been struck in the ground to accommodate two large weighbridges capable of carrying one-ton cars. A smaller weighbridge tested the light class cars and motor bicycles.

Each car was driven onto the scales by the same operator who later drove it in the race—this being one of the rules—and a careful record of its weight was made by a club official.

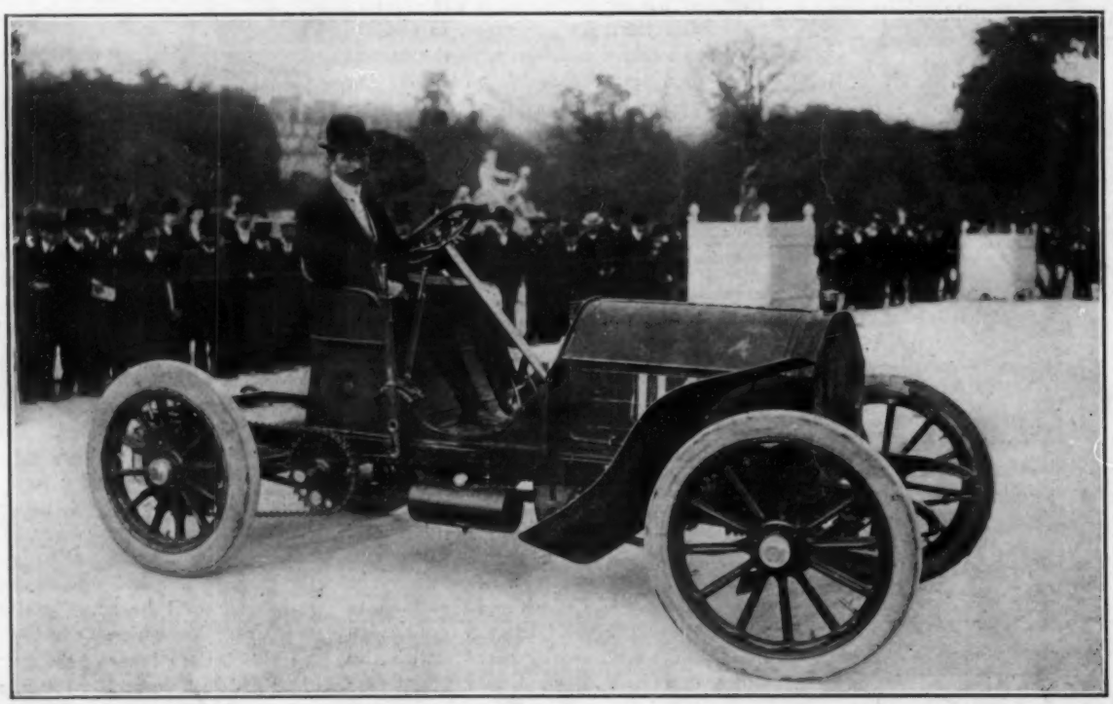
CUSTOMS OFFICIALS ATTACH SEALS.

On leaving the scales a small leaden seal was attached to each car by a Customs House official, which obviates any frontier customs fuss and detention when the car re-enters France. The signature of the actual driver in the race had to be attached to the Customs House document.

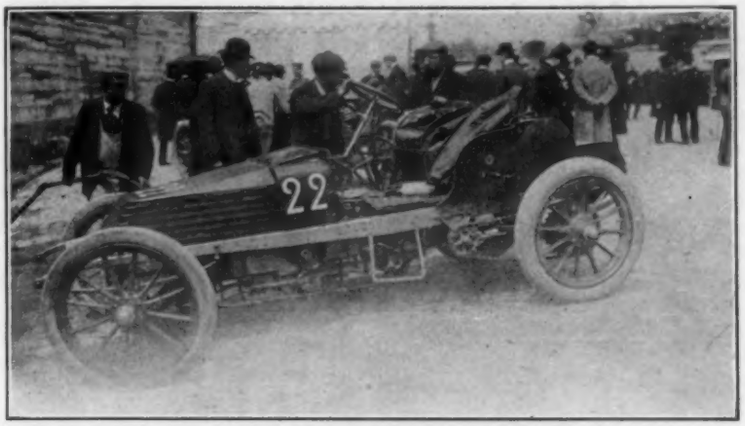
The cars passed onto the scales in sequence according to the starting number each had drawn. Charles Jarrott, winner of the Circuit Ardennes, and one of the British team in the Gordon Bennett race in Ireland, drew number 1. Consequently his car, an 80-horse de Dietrich, was the first to cross the scales. Mr. Jarrott will be seen in the United States this summer on an 80-horse Napier racer.

AMERICANS WELL REPRESENTED.

The American automobilists present at the weighing-in were interested in numbers 5 and 9. Loraine Barrow, who was destined later to meet with a nasty accident on a 40-horse de Dietrich, drove onto the weighbridge in good style as No. 5. H. S. Harkness, on his 70-horse Harkness car, had drawn number 9 in the start-



FOXHALL KEENE AT THE WHEEL OF A 60 H. P. MERCEDES CAR—ENTERED AS NO. 114 IN PARIS-MADRID RACE, BUT DID NOT START.



WOLSELEY 50 H. P. ENGLISH CAR, DRIVEN BY SYDNEY GIRTING.
L. Porter and Mr. Nixon of Belfast, Ireland, who was killed, drove a similar car.

ing list. This proved the most interesting entry, as his was the only American built car taking part in the race. Tod Sloan, on a 40-horse Georges Richard, was 64th at the weighing scales and starting post.

The American colony in Paris was well represented at the weighbridge ceremonies. Many had cameras and took snapshots of the American competitors in the race.

W. K. Vanderbilt, Jr., on his 80-horse Mors, with an engine having steel cylinders and a great wind shield, making the car look like an inverted boat, was much cheered as he drove to the scales as No. 60. The inlet valve of his motor is automatic and is placed in the center of the top of the cylinder. The Spanish Minister to France was in the midst of the onlooking American colony. Everybody was asking in whispers what sort of reception the American racers were likely to get when they crossed the Spanish frontier.

THE MERCEDES AND PANHARD RACERS.

J. B. Warden, on a 60-horse Mercedes, came 99th, and Foxhall Keene, number 114, was the last of the American competitors, on another 60-horse Mercedes. The notable point about these Mercedes racers is that the driver is seated over the rear axle, with his steering gear much more inclined than is usual. The engine is a four-cylinder of the well-known Mercedes type. But the 1903 Mercedes, Mors and Panhards were the dark horses of the contest, little being known of their engines. The engine of the Panhards is reported to give 80 horse power. The armored wood frame is replaced by stamped steel after the Mercedes type, and the single spring over the front axle has been abandoned. The new Panhard radiator is a cross between the old and the new honeycomb pattern. Both inlet and exhaust valves are mechanically actuated, and there are three speeds and reverse. The car makes little noise, although the silencer has been replaced by an exhaust pipe. The front end of the motor is slightly dropped, so that the flywheel may be raised from the ground.

The weighing in disclosed the newest and most interesting types of racers. In their stripped racing trim, to those not conversant with the vast strength of their

LOVING CUP PRESENTED TO PRESIDENT A. R. SHATTUCK, OF THE A. C. A.

pressed steel frames, the cars looked most dangerously frail to be driven at 70 or 80 miles an hour.

Especially interesting was the Boyer car, which so far has little or no racing history. The two seats for driver and mechanic are placed directly over the rear axle, as in the Mercedes, the engine and radiator taking up more than half the length of the car. All head and no body is the keynote to the latest racers. The four massive Boyer cylinders are cast separately—not in pairs as is the British custom—and represent a tremendous force. The driving sprockets are actually larger than the sprockets on the driving wheels, consequently the engines must be capable of developing tremendous power. Naturally the compression in the cylinders is enormous. It took the combined strength of two sturdy French mechanicians to start the engines. Both looked immensely pleased and relieved when at last they succeeded in firing the charge and getting the engine to work. After leaving the scales a close watch was set on the cars to prevent any "doping" on the part of rivals or of the holders of heavy bets on the race.

NO FAVORITES PICKED.

No two experts agreed on the "favorite." The Sunday start from Versailles represented the most notable gathering of the most famous makes of cars ever met in the free for an open event. The Paris-Vienna was dubbed a "demon race." Already the Paris-Madrid contest has been baptised—and seems to deserve the title—"The Holocaust of Hades."

The entrance fees alone of the Paris-Madrid race amounted to $15,000. The fees ranging from $10 for a motor bicycle to $80 for a big car.

Several reproductions of original photographs of contestants and scenes prior to the start of the racing section of the Paris-Madrid race will be found on various pages in this issue.

LOVING CUP PRESENTED TO PRESIDENT SHATTUCK.

The loving cup shown in the accompanying engraving was presented by the governors of the Automobile Club of America to President Albert R. Shattuck on the occasion of his departure for Europe on May 5, as a mark of appreciation of his services to the club during his presidency for three years past.

Photo by courtesy of Yates, Syracuse, N. Y.
THE FIRST "HOLD-UP" UNDER THE BAILEY LAW IN NEW YORK STATE.

The governors and the chairman of the standing committees waited upon Mr. Shattuck in a body at his residence in Washington Square and made the presentation. Jefferson Seligman, acting as spokesman, dubbed Mr. Shattuck the "pioneer automobilist," and Col. John Jacob Astor called attention to Mr. Shattuck's untiring work for good roads. Fitting remarks were made by a number of other governors and committee men.

Mr. Shattuck is now absent in Europe making an automobile tour which will extend throughout the summer.

MOTOR BICYCLE HILL CLIMBING CONTEST IN NEW YORK.

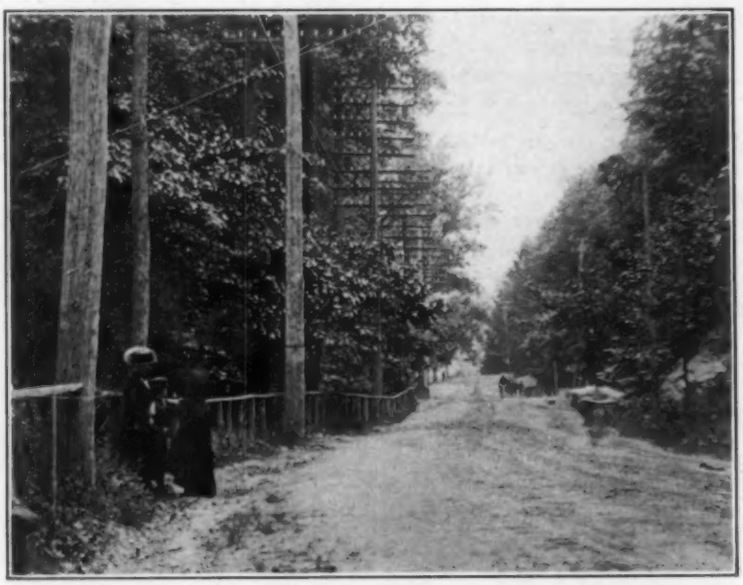
Mounted on one of his new 5 horse power double cylinder motor cycles, G. H. Curtiss, of Hammondsport, N. Y., won first prize handily in the hill-climbing contest of the New York Motor Cycle Club on Memorial Day. The trials were held on the Riverdale Hill, situated on Riverdale Avenue, near Kingsbridge, in upper New York City. The hill is half a mile long, with a grade ranging from 5 to 12 per cent.—8 per cent. at the start, 12 per cent. in the center and 5 near the top. The surface is macadam, and was in only fair condition at the time of the trials, being rough and and in some places dangerously wet from being sprinkled too generously and from a light sprinkle of rain immediately preceding the trials.

There was considerable delay in getting the wires laid for the electric bell signal system used in timing, but when the trials were eventually started the contestants found little to complain of. Each contestant was given one trial with a rolling start, and gold, silver and bronze medals were awarded for the fastest times. Entries were limited to regularly catalogued machines.

Before the contest Mr. Curtiss complained of having difficulty with the ignition system of his machine. He thought that he had a short circuit, then that his battery was weak. However, when the spark plugs were examined it was found that the cylinder was partially filled with gasoline, drawn in from a flooded carbureter. When this was run off, the plugs cleaned and a new supply of lubricating oil turned into the crank case the motor worked perfectly. The machine ridden by Mr. Curtiss was driven by means of a flat leather belt, two inches wide and of single thickness. The pulley on the driving wheel was of wood, without flanges.

The times of the three prize winners were as follows: G. H. Curtiss, 5 horse power Hercules, 51 seconds; F. P. Baker, 1 3-4 horse power Indian, :55 2-5; Charles Gustafson, 1 3-4 horse power Indian, :58 1-5. Twenty-two of the thirty-one who entered participated in the trials and there were nine different makes of machines in the contest.

GEORGE SHERMAN STARTING IN MOTOR CYCLE HILL CLIMBING TEST.



COURSE OF MAY 30th HILL CLIMBING TEST IN NEW YORK.

Alice Roosevelt Becomes a Motorist.

Special Correspondence.

WASHINGTON, D. C., May 30.—The use of the automobile is becoming almost universal among the official and social set of Washington. The latest recruit is Miss Alice Roosevelt, eldest daughter of the President of the United States, who has just purchased a $2,500 United States Long Distance touring car. Frequently of late Miss Roosevelt has been seen riding in the automobile of Countess Cassini, niece of the Russian Ambassador, and it was freely predicted that she would have a car of her own before the summer was over. The machine arrived in Washington during the present week, and was used by its fair owner for the first time this morning to convey her to the railroad station.

The first ride was rather exciting. Coming down Pennsylvania Avenue Miss Roosevelt found herself in the midst of a number of fire engines and trucks, which were responding to an alarm of fire. Handling the machine like a veteran, she skilfully guided the vehicle through the maze of fire apparatus, and displayed much coolness in a rather trying position, proving that she is competent to drive an automobile.

Indianapolis Races Postponed.

Special Telegram.

INDIANAPOLIS, June 1.—The automobile race meeting scheduled to be held here Saturday was postponed on account of rain. It was at first intended to hold the postponed races to-day, but the frequent recent rains had so softened the fair grounds track that racing on it would be dangerous, so it was announced that the races will be held later in the week.